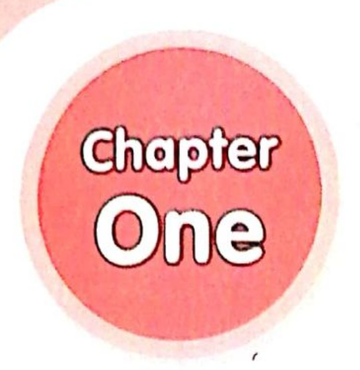




Vocabulary

Associative	تجميع
Factors	عوامل
Parentheses	أقواس
Product	حاصل الضرب
Property	خاصية
Justify	يبرر - يعط سبب
Length	طول
Parallel	متوازية
Perimeter	محيط
Width	عرض
Inverse	معكوس
Commutative	الإبدال
Distributive	التوزيع
Addend	الأعداد المجموعة
Bar model	التمثيل بالأعمدة
Fact family	عائلة الحقائق

Repeated addition	جمع متكرر
Perseverance	عزيمة
Review	مراجعة
Estimation	تقدير
Reasonableness	إمكانية
Fact family	عائلة الحقائق
Minute	دقيقة
Quotient	حاصل قسمة
Hear	يسمع
Earned	حصل
Chores	الأعمال المنزلية
Entire	كامل - كله
Vacuuming	كنس
Fee	أجرة
Wage	الأجر
Orchard	بستان
Phrase	العبارة

Content

- Bakkar Self-Check
- Bakkar Exercise on lessons
- Exercise inspired from Math Journal
- Exercise inspired from Discover

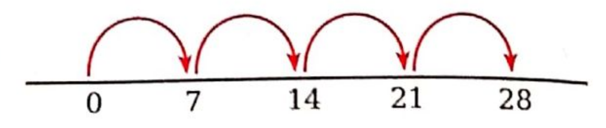
Lesson (61 , 62)

Properties of multiplication

Activity 1 Multiplication as repeated addition:

*** Find the product of 4×7 : It read as 4 times 7

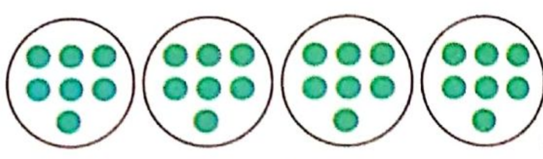
♦ Skip count by 7 strategy



Skip 4 times by 7 to get 28

$7 + 7 + 7 + 7 =$ Number of skips $\times 7 = 4 \times 7 = 28$

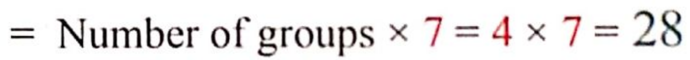
♦ Groups and dots strategy



4 groups of 7 dots



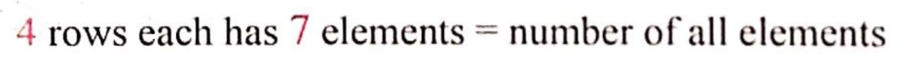
Number of dots $= 7 + 7 + 7 + 7$



$=$ Number of groups $\times 7 = 4 \times 7 = 28$

♦ Array strategy





4 rows each has 7 elements = number of all elements

$= 7 + 7 + 7 + 7 =$ Number of row $\times 7 = 4 \times 7 = 28$

Activity 2 Notice the difference between:

$8 + 0 = 8$	$8 \times 0 = 0$	→ Any number $\times 0 = 0$
$8 + 1 = 9$	$8 \times 1 = 8$	→ Any number $\times 1 =$ same number

<u>Also:</u>

$17 \times 0 = 0$	$17 \times 1 = 17$
$138 \times 0 = 0$	$138 \times 1 = 138$
$9637 \times 0 = 0$	$9637 \times 1 = 9637$
$1000 \times 0 = 0$	$1000 \times 1 = 1000$



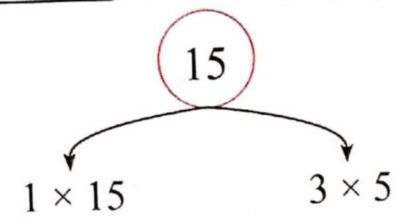
Practice 1 Remember the facts then complete :

Any number × 1 = same number	Any number × zero = zero

Fact of 1	Fact of 2	Fact of 3	Fact of 4	Fact of 5
1 × 2 = ...	2 × 2 = ...	3 × 2 = ...	4 × 2 = ...	5 × 2 = ...
1 × 3 = ...	2 × 3 = ...	3 × 3 = ...	4 × 3 = ...	5 × 3 = ...
1 × 4 = ...	2 × 4 = ...	3 × 4 = ...	4 × 4 = ...	5 × 4 = ...
1 × 5 = ...	2 × 5 = ...	3 × 5 = ...	4 × 5 = ...	5 × 5 = ...
1 × 6 = ...	2 × 6 = ...	3 × 6 = ...	4 × 6 = ...	5 × 6 = ...
1 × 7 = ...	2 × 7 = ...	3 × 7 = ...	4 × 7 = ...	5 × 7 = ...
1 × 8 = ...	2 × 8 = ...	3 × 8 = ...	4 × 8 = ...	5 × 8 = ...
1 × 9 = ...	2 × 9 = ...	3 × 9 = ...	4 × 9 = ...	5 × 9 = ...
1 × 10 = ...	2 × 10 = ...	3 × 10 = ...	4 × 10 = ...	5 × 10 = ...
1 × 11 = ...	2 × 11 = ...	3 × 11 = ...	4 × 11 = ...	5 × 11 = ...
1 × 12 = ...	2 × 12 = ...	3 × 12 = ...	4 × 12 = ...	5 × 12 = ...

Fact of 6	Fact of 7	Fact of 8	Fact of 9	Fact of 10
6 × 2 = ...	7 × 2 = ...	8 × 2 = ...	9 × 2 = ...	10 × 2 = ...
6 × 3 = ...	7 × 3 = ...	8 × 3 = ...	9 × 3 = ...	10 × 3 = ...
6 × 4 = ...	7 × 4 = ...	8 × 4 = ...	9 × 4 = ...	10 × 4 = ...
6 × 5 = ...	7 × 5 = ...	8 × 5 = ...	9 × 5 = ...	10 × 5 = ...
6 × 6 = ...	7 × 6 = ...	8 × 6 = ...	9 × 6 = ...	10 × 6 = ...
6 × 7 = ...	7 × 7 = ...	8 × 7 = ...	9 × 7 = ...	10 × 7 = ...
6 × 8 = ...	7 × 8 = ...	8 × 8 = ...	9 × 8 = ...	10 × 8 = ...
6 × 9 = ...	7 × 9 = ...	8 × 9 = ...	9 × 9 = ...	10 × 9 = ...
6 × 10 = ...	7 × 10 = ...	8 × 10 = ...	9 × 10 = ...	10 × 10 = ...
6 × 11 = ...	7 × 11 = ...	8 × 11 = ...	9 × 11 = ...	10 × 11 = ...
6 × 12 = ...	7 × 12 = ...	8 × 12 = ...	9 × 12 = ...	10 × 12 = ...

Activity 3 Remember factors of a number :

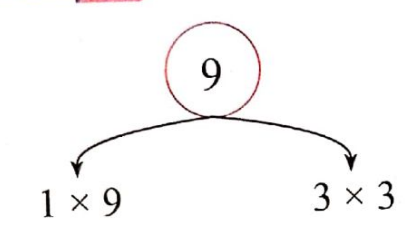


$5 \times 3 = 15$

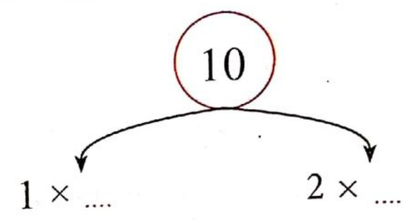
Factor, Factor, Products of 3 & 5

Factors of 15 are : 1 , 3 , 5 , 15

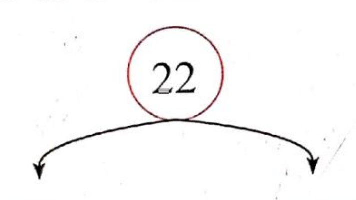
Practice 2 Write the factors of the following :



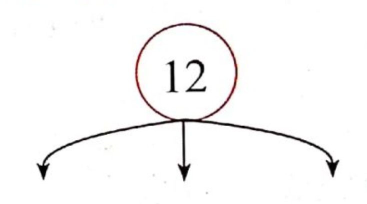
Factors of 9 : ....



Factors of 10 : ....



Factors of 22 : ....



Factors of 12 : ....

Activity 4 Commutative property :

$3 + 3 + 3 + 3 = 3 \times 4 = 12$ $\qquad$ $4 + 4 + 4 = 4 \times 3 = 12$

- Then $3 \times 4 = 4 \times 3 = 12$

◀ We say that multiplication is a commutative process .

Practice 3 Complete the following :

$5 \times 4 =$ .... $\times 5$	$7 \times 1 =$ .... $\times 7$	$18 \times 0 = 0 \times$ ....
$29 \times 1 = 1 \times$	$6 \times 8 = 8 \times$	$12 \times 2 = 2 \times$ ....

Activity 5 Associative property :

There are the factors 5 , 2 , 3 What is needed is : $5 \times 2 \times 3$

With any two factors , we can start ?

Or we must start with the first two factors ?

We can use ( ) to find the product as the following :

$5 \times 2 \times 3 = (5 \times 2) \times 3 = 10 \times 3 = 30$

or $5 \times 2 \times 3 = 5 \times (2 \times 3) = 5 \times 6 = 30$

or $5 \times 2 \times 3 = (5 \times 3) \times 2 = 15 \times 2 = 30$

Notice the commutative of 2 and 3

Notice
Start with numbers in side the brackets

We conclude that Notice : to multiply two number start with any of them this is associative property .

Practice 4 Complete :

a) $3 \times 4 \times 2 = (\ldots \times \ldots) \times 2 = \ldots \times 2 = \ldots$

or $= 3 \times (\ldots \times \ldots) = 3 \times \ldots = \ldots$

or $= 4 \times (\ldots \times \ldots) = 4 \times \ldots = \ldots$

Notice
Use brackets to show what we multiply first

b) $5 \times 6 \times 10 = (\ldots \times \ldots) \times 10 = \ldots \times 10 = \ldots$

or $= 5 \times (\ldots \times \ldots) = 5 \times \ldots = \ldots$

or $= 6 \times (\ldots \times \ldots) = 6 \times \ldots = \ldots$

Notice
Use brackets to show what we multiply first

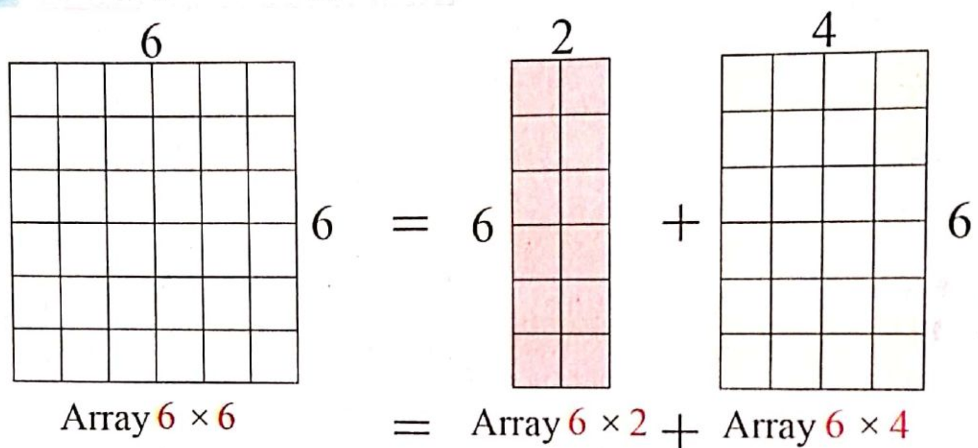
Activity 6 Distributive property :

We use distributive to find the product of big numbers :

Practice 5 Find the result of 6 x 6 = ... ?

First Array strategy :

(As we studied in the first semester)



Array 6×6 = Array 6×2 + Array 6×4

The conclusion:

$$6 \times 6 = 6 \times (2 + 4) = (6 \times 2) + (6 \times 4)$$
$$= 12 + 24 = 36$$

Distribute multiplication over additions

Second Bar model strategy:

6	6	6	6	6	6	6	6

(5 and 3)

$$6 \times 8 = 6 \times (5 + 3) = (6 \times 5) + (6 \times 3)$$
$$= 30 + 18 = 48$$

Another method

6	6	6	6	6	6	6	6

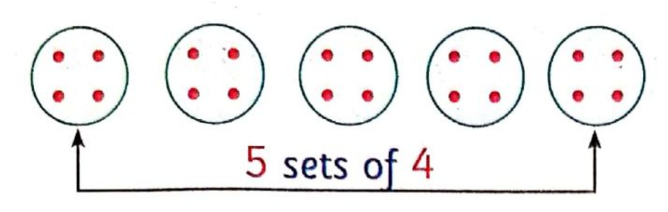
(6 and 2)

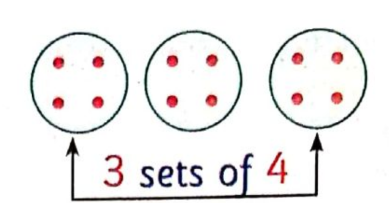
$$6 \times 8 = 6 \times (6 + 2) = (6 \times 6) + (6 \times 2)$$
$$= 36 + 12 = 48$$

This process help us to breaking apart into smaller chunks

Third Repeating sets strategy:

$8 \times 4 =$ .... 8 sets of 4 dots each





$8 \times 4 = (5 + 3) \times 4 = (5 \times 4) + (3 \times 4)$

$= 20 + 12 = 32$

8 sets of 4 → 5 sets of 4, 3 sets of 4

Practice 6 Complete as the Ex :

Ex $9 \times 5 = (5 + 4) \times 5 = (5 \times 5) + (4 \times 5)$

$= 25 + 20 = 45$

a) $12 \times 6 = (7 + \ldots) \times 6 = (7 \times 6) + (\ldots \times 6)$

$= \ldots + \ldots = \ldots$

b) $13 \times 5 = (8 + \ldots) \times 5 = (8 \times 5) + (\ldots \times 5)$

$= \ldots + \ldots = \ldots$

c) $3 \times 14 = 3 \times (7 + \ldots) = (3 \times 7) + (3 \times \ldots)$

$= \ldots + \ldots = \ldots$

d) $5 \times 17 = 5 \times (10 + \ldots) = (5 \times 10) + (5 \times \ldots)$

$= \ldots + \ldots = \ldots$

Challenge $8 \times 17 = 8 \times (\ldots + \ldots) = (\ldots \times \ldots) + (\ldots \times \ldots)$

$= \ldots + \ldots = \ldots$

Self - check on lesson (61 , 62)

1 Complete the following :

a) $5 + 5 + 5 = 5 \times \dots = \dots$

b) $6 + 6 + 6 + 6 + 6 = 6 \times \dots = \dots$

c) $7 \times 6 = 7 + \dots + \dots + 7 + \dots + \dots = \dots$

d) $2 \times 9 = 9 + \dots = \dots$

e) $4 + 4 + 4 + 4 + 4 + 4 + 4 = 4 \times \dots = \dots$

2 Complete as in (a) :

a) $2 \times 7 = 7 \times 2$

b) $3 \times \dots = 9 \times \dots$

c) $5 \times \dots = 3 \times \dots$

d) $4 \times \dots = 7 \times \dots$

e) $4 \times \dots = 6 \times 4$

f) $8 \times \dots = 10 \times \dots$

g) $2 \times \dots = 10 \times \dots$

h) $5 \times \dots = 1 \times \dots$

i) $4 \times 0 = 0 \times \dots$

j) $3 \times \dots = 10 \times 3$

3 Complete as in (a) :

a) $5 \times 4 \times 6 = (5 \times 4) \times 6 = 20 \times 6 = 120$

b) $2 \times 3 \times 7 = (\dots \times \dots) \times 7 = \dots \times 7 = \dots$

c) $3 \times 4 \times 3 = (\dots \times \dots) \times 3 = \dots \times 3 = \dots$

d) $2 \times 6 \times 5 = 2 \times (\dots \times \dots) = 2 \times \dots = \dots$

e) $8 \times 1 \times 9 = 8 \times (\dots \times \dots) = 8 \times \dots = \dots$

Notice
We multiply What is in the parentheses first

4 Ring the process with the same problem as (a) :

a $(9 \times 2) \times 5$

$9 \times (2 \times 5)$	11×5	9×10	9×7

b $4 \times (10 \times 3)$

4×13	4×30	14×3	$(4 \times 3) \times 10$

c $3 \times (5 \times 2)$

3×7	8×2	3×10	$(3 \times 5) \times (3 \times 2)$

d $(7 \times 3) \times 1$

3×7	21×1	10×1	11

e $(4 \times 2) \times 8$

$8 \times (2 \times 10)$	$8 \times (2 \times 4)$	6×8	8×8

f $(2 \times 6) \times 3$

8×3	$(6 \times 3) \times (2 \times 3)$	12×3	36

g $(8 \times 5) \times 4$

$8 \times (4 \times 5)$	40×4	20×8	160

Activities from Math Journal

Activity • Use the distributive of multiplication to find the product of each part then find the final product :

a 7×8

The first method

$7 \times 8 = 7 \times (5 \ldots + \ldots)$

$= (7 \times \ldots) + (7 \times \ldots)$

$= \ldots + \ldots$

$= \ldots$

The second method

$7 \times 8 = 7 \times (7 \ldots + \ldots)$

$= (7 \times \ldots) + (7 \times \ldots)$

$= \ldots + \ldots$

$= \ldots$

b 6×13

The first method

$6 \times 13 = 6 \times (10 \ldots + \ldots)$

$= (6 \times \ldots) + (6 \times \ldots)$

$= \ldots + \ldots$

$= \ldots$

The second method

$6 \times 13 = 6 \times (5 \ldots + \ldots)$

$= (6 \times \ldots) + (6 \times \ldots)$

$= \ldots + \ldots$

$= \ldots$

c 9×5

The first method

$9 \times 5 = 9 \times (2 \ldots + \ldots)$

$= (9 \times \ldots) + (9 \times \ldots)$

$= \ldots + \ldots$

$= \ldots$

The second method

$9 \times 5 = 9 \times (4 \ldots + \ldots)$

$= (9 \times \ldots) + (9 \times \ldots)$

$= \ldots + \ldots$

$= \ldots$

d 8×17

The first method

$8 \times 17 = 8 \times (10 \ldots + \ldots)$

$= (8 \times \ldots) + (8 \times \ldots)$

$= \ldots + \ldots$

$= \ldots$

The second method

$8 \times 17 = 8 \times (8 \ldots + \ldots)$

$= (8 \times \ldots) + (8 \times \ldots)$

$= \ldots + \ldots$

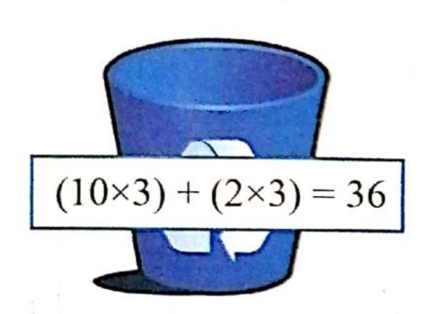
$= \ldots$

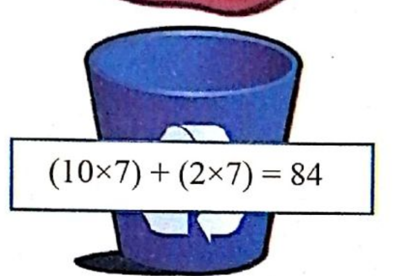
Lesson (63 , 64 , 65)

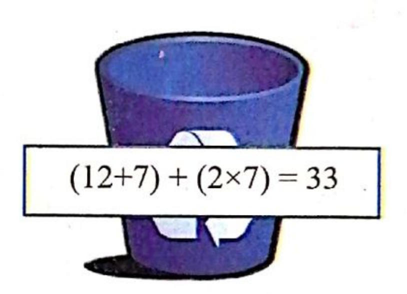
Relation between multiplication and division

Activity 1 Look at the picture below and circle the pail that correctly shows how to solve the problem :









Activity 2 Estimate the following using the heightes place value strategy :

Number	Estimations
59 →	50
64 →	....
27 →	....

Number	Estimations
75 →	....
31 →	....
18 →	....

The way

Put zero in the ones digit and keep the tens digits as it is

Activity 3 Estimate the following numbers (the first digit from the left) as the Ex:

Number	Estimations
684 →	600
451 →	....
920 →	....

Number	Estimations
189 →	....
375 →	....
709 →	....

The way

Put zero in the ones and tens digits and keep the hundreds digit as it is

Rule To rounding 2 digit numbers look at the ones place remove it and put 0 then do the following :

(a) If the ones digits less than 5 keep the tens digit as it is.
(b) If the ones digits more than or equal 5 add 1 to the tens digit.

Activity 4 Round the following numbers to the nearest 10 by looking at the ones place as in (a ,b) :

	Number	Rounding
a	26 →	30
c	78	....
e	97	....
g	31	....

	Number	Rounding
b	54 →	50
d	39	....
f	63	....
h	85	....

Rule To rounding 3 digit numbers remove at the tens and ones place and put 0 in each place then follow the following :

(a) If the tens digits less than 5 keep the hundred place as it is.
(b) If the tens digits more than or equal 5 add one to the hundred digit.

Activity 5 Round the following numbers to the nearest 100 as in (a ,b) :

	Number	Rounding
a	384 →	400
c	780	....
e	419	....
g	560	....

	Number	Rounding
b	134 →	100
d	591	....
f	246	....
h	950	....

Fourth Fact strategy :

Activity 6 Estimate the product of $5 \times 9 =$ ....

Know that $5 \times 10 = 50$ So : 5×9 must be less than 50 ....

Know that $5 \times 8 = 40$ So : 5×9 must be more than 40 ....

So the answer is : $5 \times 9 = 45$

Practice 1 Estimate the product :

a) $6 \times 7 =$ .... ?

Know that $6 \times 6 =$ .... So : 6×7 must be more than ....

Know that $6 \times 8 =$ .... So : 6×7 must be less than ....

So the answer is : $6 \times 7 =$ ....

b) $4 \times 3 \times 9 =$ .... ?

Know that $(4 \times 3) \times 9 = 12 \times$ ....

Know that $12 \times 10 =$ .... So : 12×9 must be less than ....

Know that $12 \times 8 =$ .... So : 12×9 must be more than ....

So the answer is : $12 \times 9 =$ ....

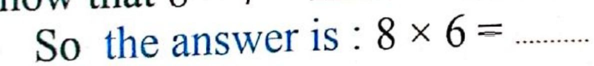
Practice 2 Dalia had 8 baskets each basket held 6 eggs. How many eggs did Dalia have in all?

Write the equation you are trying to solve this problem. $8 \times 6 =$ ....

◀ Know that $8 \times 5 =$ .... So : 8×6 must be more than ....

◀ Know that $8 \times 7 =$ .... So : 8×6 must be less than ....





So the answer is : $8 \times 6 =$ ....

Practice 3 Ahmed bought 11 pens, the price of each pen 9 LE . How much did he pay ?

Write the equation you are trying to solve this problem. $11 \times 9 =$ ....

◀ Know that $10 \times 9 =$ .... So : 11×9 must be more than ....

◀ Know that $12 \times 9 =$ .... So : 11×9 must be less than ....



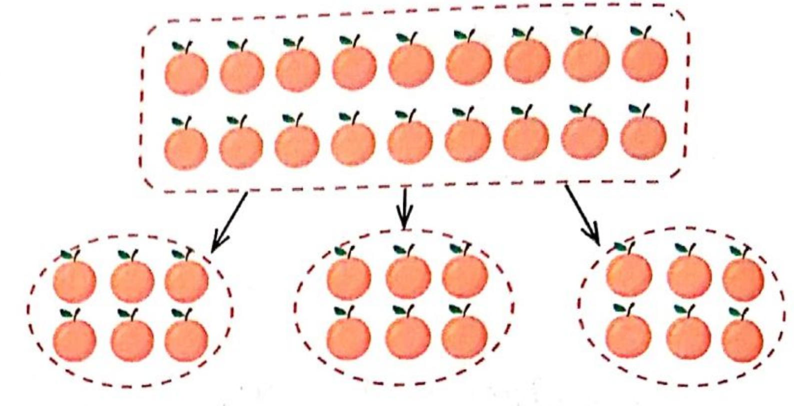
So the answer is : $11 \times 9 =$ ....



Relation between multiplication and division

Activity 7 Use different strategies to find 18 ÷ 3 :

a **Array strategy :**

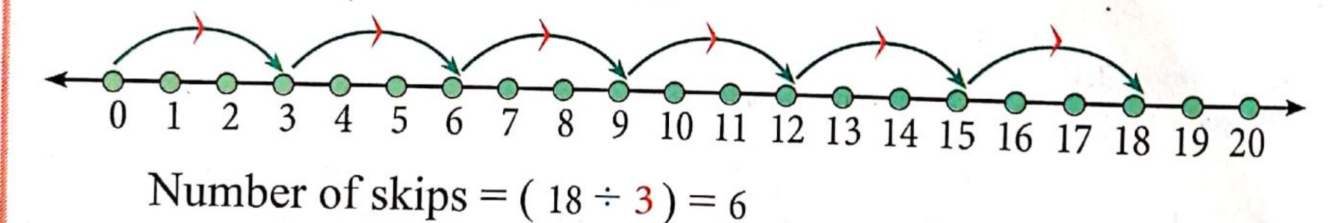


Use 3 groups each has 6 oranges .

We can write this using division sign (÷) as :

The number in each group = 18 ÷3 = 6 oranges

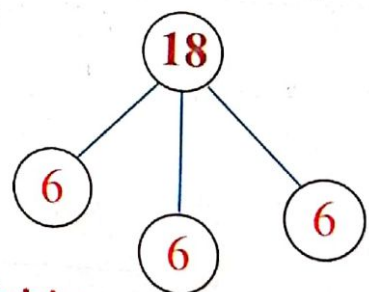
b **Skip count by 3 up to 18 :**



Number of skips = (18 ÷ 3) = 6

c **Using number bond to show the division model for the problem:**

(18 ÷ 3) = 6



d **Inverse operation (multiplication / division) :**

(18 ÷ 3) = ... ?

The missing factor is 6

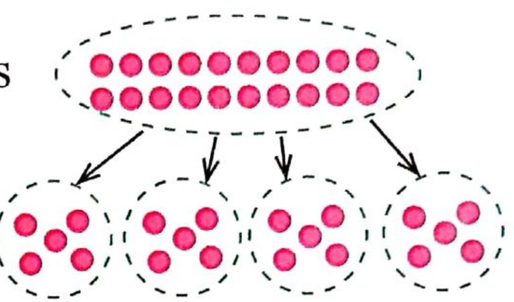
We can show it as : 3 × ..... = 18

Practice 4 Use the following strategies to find 20 ÷ 4 :

a **Array strategy :**

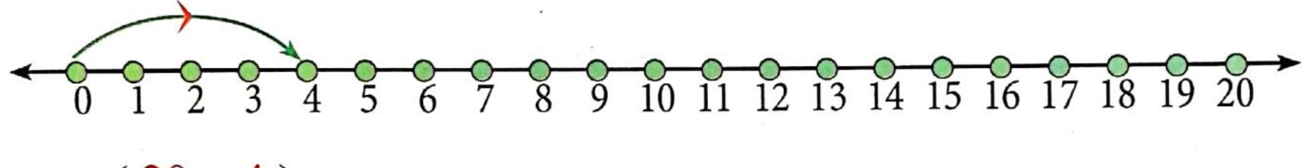
Divide the number 20 to 4 groups

each groups contains 5 items



(20 ÷ 4) = ...

b **Skip count by 4s to 20 :**

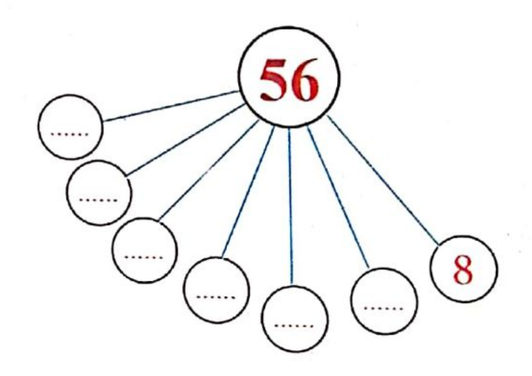


(20 ÷ 4) = ... = number of skips

Practice 5 Use the following strategy to find 56 ÷ 7= .... :

a **Using port whole model :**

(56 ÷ 7) = ...



b **Inverse operation :**

(56 ÷ 7) = ... ? We can show it as : 7 × .... = 56

The missing factor is .... Then (56 ÷ 7) = ...



Activities from Math Journal

Activity Write problems in the row at the bottom and show the work as the example :

Problem	Work space	Answer
$24 \div 2 =$	Mahmoud has 24 sandwich he want to divide it between two families . Find the number of sandwich that each family get ?	$24 \div 2 = 12$ So $2 \times 12 = 24$
.... $\times 7 = 56$		
$12\times$ .... $= 48$		
$63 \div$ .... $= 7$		
$4\times5\times2 =$	.... boxes each has .... boxes and each box contains .... pens How many pens in all boxes ?	

Self - check on lesson (63 , 64 , 65)

1 Complete the following :

a $5 \times 11 =$ ....

- Know that $5 \times 10 =$ .... so 5×11 must be more than ....
- Know that $5 \times 12 =$ .... so 5×11 must be less than ....

Then $5 \times 11 =$ ....

b $4 \times 2 \times 6 =$ ....

- Know that $4 \times 2 \times 6 = 8 \times 6$
- Know that $8 \times 5 =$ .... so 8×6 must be more than ....
- Know that $8 \times 7 =$ .... so 8×6 must be less than ....

Then $4 \times 2 \times 6 =$ ....

2 Complete the fact family for the following numbers :

4 ,5 , 20

a $4 \times 5 = 20$, $5 \times$ .... $= 20$

$20 \div 5 =$ .... , ... $\div 4 = 5$

6 ,8 , 48

b $6 \times 8 = 48$, $6 \times$ .... $= 48$

$48 \div 6 =$ .... , ... $\div 8 = 6$

2 ,7 , 14

c $2 \times 7 = 14$, $2 \times$ .... $= 14$

$14 \div 2 =$ .... , ... $\div 7 = 2$



3 Fill in the missing numbers then draw lines to connect the equation that are related as the Ex :

EX

$2 \times$ 9 $= 18$	$80 \div$ 10 $= 8$
$7 \times 4 =$ 28	$18 \div 2 =$ 9
8 $\times 10 = 80$	28 $\div 4 = 7$

a

$3 \times$ ...... $= 6$	$5 \div$ ...... $= 1$
$4 \times 9 =$	$6 \div 3 =$ ......
...... $\times 5 = 5$	$36 \div$ ...... $= 9$

b

$5 \times$ ...... $= 30$	$21 \div 3 =$ ......
$3 \times$ ...... $= 21$	...... $\times 6 = 30$
$2 \times 10 =$	$20 \div 2 =$ ......

c

$6 \times 1 =$	...... $\div 5 = 7$
$5 \times 5 =$	$6 \div 1 =$ ......
...... $\times 7 = 35$	$25 \div$ ...... $= 5$

d

$10 \times 3 =$	...... $\div 6 = 4$
$6 \times$ ...... $= 24$	$30 \div 3 =$ ......
$3 \times$ ...... $= 9$	$9 \div$ ...... $= 3$

Activities from Math Journal



Activity 1 Habiba baked 25 cookies. she wanted to share them equally with her 5 friends.
How many cookies would each friend get?

Solution

Number of biscuit pieces = ... piece



Activity 2 Farah had 8 bags of marbles inside each bag 6 marbles.
How many marbles did Farah have in all ?

Solution

Number of balls with it = ... ball



Activity 3 Adel picked 45 apples. He put them equally into baskets. when he was done, he had 9 baskets.
How many apples were in each baskets?

Solution

Number of apples in each basket = ... apples



Activity 4 Amir had 4 boxes. In each box were 3 dolls, and each doll had 2 buttons on it's shirt.
How many buttons were there?

Solution

Number of buttons $= 4 \times 3 \times 2 = (4 \times 3) \times 2$

$=$ .... button



Lesson (66)

Apply on perimeter and area

Activity 1 Complete the table show the properties of 2D shapes :

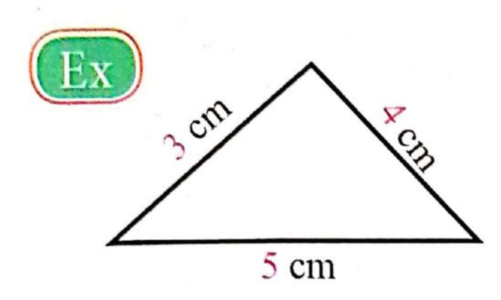
Shapes	Name	Properties			
		Of sides	Number of sides	Properties of vertices	Number of Vertices
	....	Equal in length	....	Equal	....
	....	2 short and 2 long	....	....	....
	....	2 parallel & 2 not parallel	....	Not Equal	....
	....	Equal in length	....	....	....
	....	Each 2 opposite sides are parallel & equal	....	....	....
	Regular Hexagon	Equal in length	....	....	....



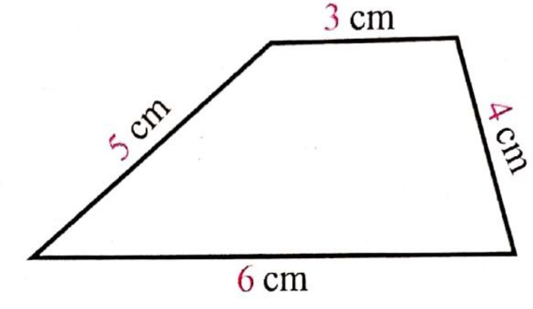
The perimeter of any polygon =
the sum of the length of it's sides.

Practice 1 Find the perimeter of the following as the Ex :

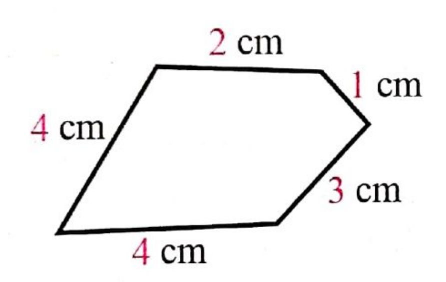
Ex



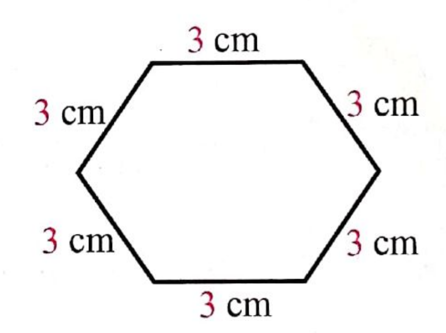
The perimeter = 3 + 4 + 5
= 12 cm



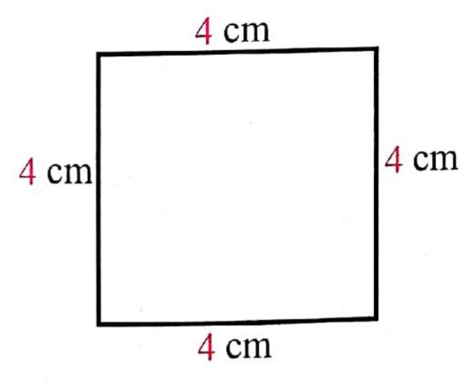
The perimeter = ... + ... + ... +.....
= ..... cm



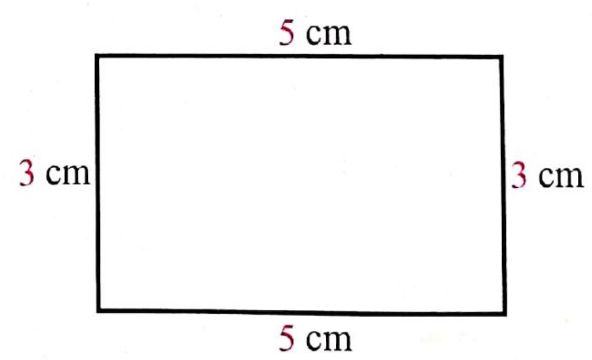
The perimeter = ...+.....+.....+.....+.....
= ..... cm



The perimeter = ...+.....+.....+.....+.....+.....
= ..... cm



The perimeter = ...+.....+.....+....
= ..... cm



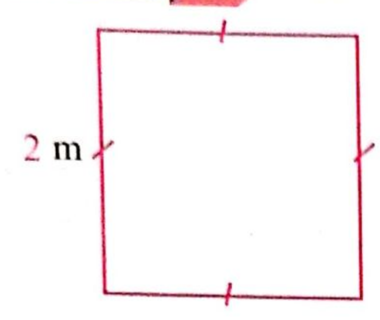
The perimeter = ...+.....+.....+.....
= ..... cm

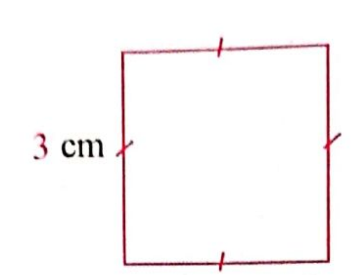


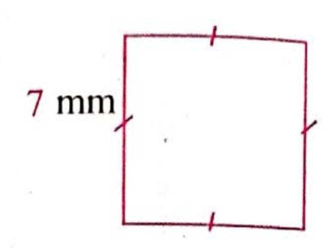
Perimeter of the square = side length × 4

The side length of the square = it's perimeter ÷ 4

Practice 2 Find the perimeter of the following square as the Ex :







The perimeter = ... × .....
= ..... m

The perimeter = ... × ....
= ..... cm

The perimeter = ... × ....
= ..... mm

Practice 3 Complete the following :

a) The perimeter of a square with side 5 m

Solution The perimeter = ... × .... = ... m

b) The side length of a square whose perimeter 8 cm

Solution The side length = ... ÷ 4 = ... cm

c) A piece of land in the form of a square with side 40 m

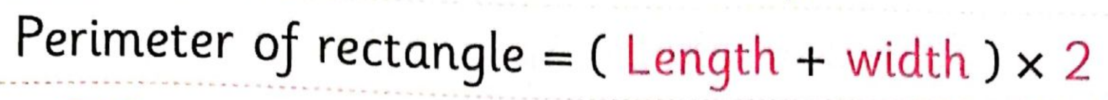
Solution It's perimeter = ... × ....= .... m

d) Which is longer : the perimeter of square with side 3 cm or perimeter of equilateral triangle with side 5 cm ?

Solution Perimeter of square = ... × ....= .... cm

Perimeter of triangle = ... × ....= .... cm

The longer is ....



Perimeter of rectangle = (Length + width) × 2

Practice 4 Find the perimeter of the following :

5cm, 2cm

The perimeter = (........+........) ×2

= .... cm

7 mm, 3 mm

The perimeter = (........+........) ×2

= .... mm

The length of the rectangle = half it's perimeter - the width
The width of the rectangle = half it's perimeter - the length

Practice 5 Complete the following :

a A rectangle with dimensions 6 cm. and width 5 cm , find it's perimeter

Solution Perimeter of the rectangle = (...... + ...) × ......= .... cm

b A rectangle with perimeter 30 cm. , and it's length 4 cm. Find it's width.

Solution The perimeter of rectangle = (length + width)×2 = 30 cm

Half it's perimeter = (length + width)

15 = 10 + width so The width = ... cm

c Rectangle with perimeter 18 cm , it's width 4 cm . Find it's length.

Solution The perimeter of rectangle = 18 cm

so half it's perimeter = 9 cm

The length = ... - ....= .... cm

d A rectangle it's length twice it's width , find it's perimeter if it's width 7 cm .

Solution The length = twice the width = 2 × ...... = ... cm

The perimeter = (........ + ...) × 2 = ... cm

Self - check on lesson (66)First

1 Find the perimeter of the following shapes:

Perimeter = ... × .....
= ..... cm

6 cm

Perimeter =
= (...... + ...) ×2
= ...... m

5 m
3 m

Perimeter = ... × .....
= ..... m

11 m

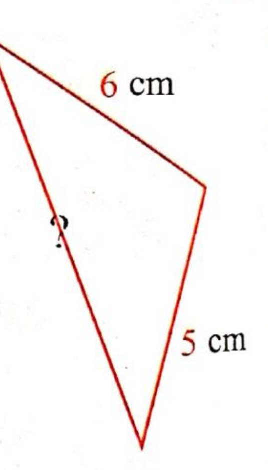
Perimeter =
= (...... + ...) ×2
= ...... cm

4 cm
1 cm

2 Answer the following :

The perimeter of the opposite figure is 21 cm

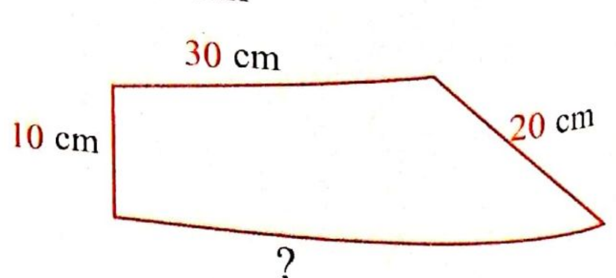
Then the length of the unknown side = ... cm



3 Answer the following :

The perimeter of the opposite figure 100 cm

Then the length of the unknown side = ... cm



4 Answer the following :

a Two square the side of the first 4 cm and the side of the second 5 cm . Complete :

Solution Perimeter of the First = ... × .... = ... cm

Perimeter of the Second = ... × .... = ... cm

The Sum of the perimeters = ... + ... = ... cm

b Two square the sum of their perimeter 40 cm , the side of the first 4 cm . Find the side of the other?

Solution Perimeter of the First = 4 × .... = ... cm

Perimeter of the Second = 40 - .... = ... cm

The sides of the second = ... ÷ 4 = ... cm

5 Answer the following :

A triangular piece of land with equal sides , it's perimeter 150 cm. Find the length of each side.

Solution Perimeter of the triangle = ... m

The side length = 150 ÷ 3 = ... m

Activities from Math Journal

Activity A rectangular garden. They give you 24 meters of fencing that they had left over. You want your garden to be 10 meters long. Find the width of your garden.

Half the perimeter = ... m

The width = half the perimeter - length

= .... - .... = ... m

10 m

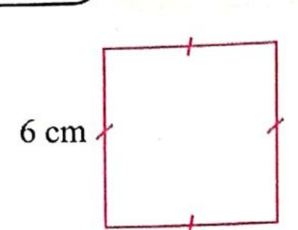
24 m

... m

Second : the Area

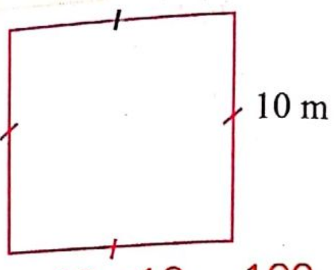
Area of square = side length × it's self

Activity 1 Find the area of the following :



The area = 6 ×6 = 36 cm^2

(It read as 36 square centimetres)



The area = 10 ×10 = 100 m^2

(It read as 100 square meters)

Practice 1 Answer the following :

a) Find the area of a square whose side 7 cm .

Solution The area = ... × .... = ... cm^2

b) Find the area of a square whose side 4 m .

Solution The area = ... × .... = ... m^2

c) Find the area of a square with perimeter 32 cm .

Solution It's side = the perimeter ÷ 4 = ...

= .... ÷ .... = ... cm

The area = ... × .... = ... cm^2

d) Find the area of a square whose side equal the side of equilateral triangle whose perimeter 12 cm .

Solution The side of triangle = the perimeter ÷ 3 = ...

= .... ÷ .... = ... cm

The area of square = ... × .... = ... cm^2

Area of rectangle = Length × width

The length = the area ÷ the width
The width = the area ÷ the length

Activity 2 Find the area of the following rectangles :

a) The area = 6 × 4

= 24 cm^2

(Rectangle: 6 cm by 4 cm)

b) The area = 5 × 7

= 35 m^2

(Rectangle: 7 m by 5 m)

c) The area of the rectangle = 40 cm^2

it's width = the area ÷ the length

= 40 ÷ 8 = ... cm

(Rectangle: 8 cm, 40 cm^2)

d) The area of the rectangle = 60 m^2

it's length = the area ÷ the width

= 60 ÷ 5 = ... m

(Rectangle: 60 m^2, 5 m)

Practice 4 Answer the following :

Which is greater area of square with side 6 cm or area of rectangle with dimensions 6 cm , 5 cm.

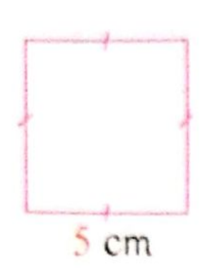
Solution Area of square = ... × .... = ... cm^2

Area of rectangle = ... × .... = ... cm^2

The greater is ....

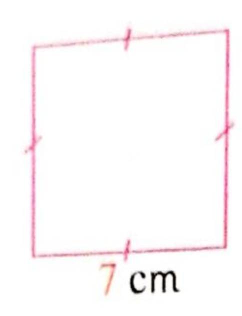
Self - check on lesson (66) Second

1 Find the area of following :



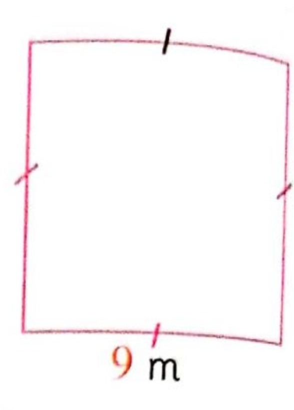
The area = ... × ......

= ...... cm^2



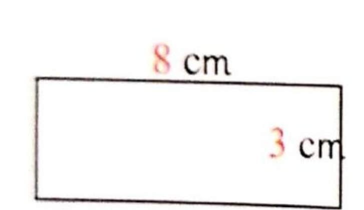
The area = ... × ......

= ...... cm^2



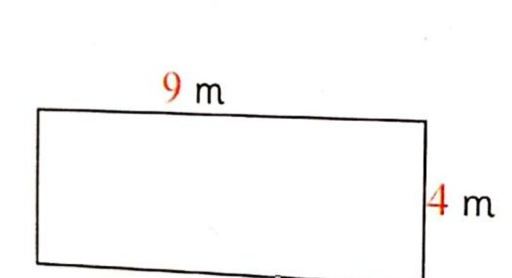
The area = ... × ......

= ...... m^2



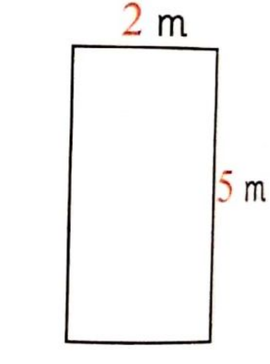
The area = ... × ......

= ...... cm^2



The area= ...... × ......

= ...... m^2



The area = ... × ......

= ...... m^2

2 Complete as the example :

25 cm^2

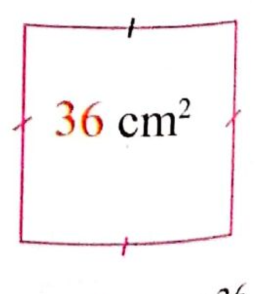
5 × 5 = 25

The side length = 5 cm

9 cm^2

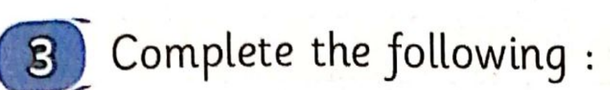
...... × ...... = 9

The side length = ... cm



...... × ...... = 36

The side length = ... cm



3 Complete the following :

a Area of rectangle = 24 m^2.

The width = Area ÷ Length

= .... ÷ .... = ... m

6 m

24 m^2

b Area of rectangle = 30 m^2.

The length = Area ÷ width

= .... ÷ .... = ... m

30 m^2

5 m

4 Complete the following :

a A square with side 5 cm then :

It's perimeter = ... × .... = ... cm

It's area = ... × .... = ... cm^2

b A rectangle with 7 cm length and 5 cm width.

Area of rectangle = Length × ....

= .... × .... = ... cm^2

5 Choose the correct answer :

a A square with side 5 cm , it's area = ... cm^2 (15 , 20 , 25)

b A square with side 5 cm ,it's perimeter = ...cm (15 , 20 , 25)

c Area of rectangle with dimensions 6 cm , 7 cm = ... cm^2

(13 , 26 , 42)

d The perimeter of rectangle whose dimensions 6 cm ,7 cm = ... cm

(13 , 26 , 42)

e A square with perimeter 12 cm , it's side = ... cm (3 , 8 , 9)

f A rectangle with perimeter 20 cm , it's length 6 cm,

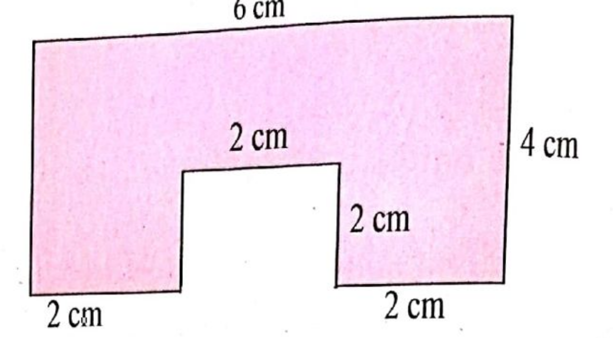
then it's width =.............. cm (5 , 4 , 26)

g A rectangle with perimeter 8 cm , it's width 1 cm .

It's length = ... cm (3 , 7 , 8)

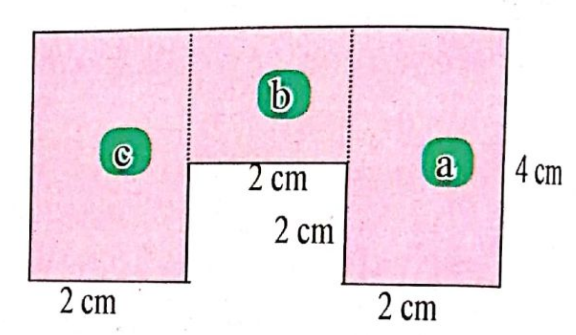
Activities from Math Journal

Activity • Calculate the area of the coloured shape.



First strategy :

Divide the shape into 3 shapes as show then follow.



Area of (a) $= 2 \times 4 = 8$ cm²

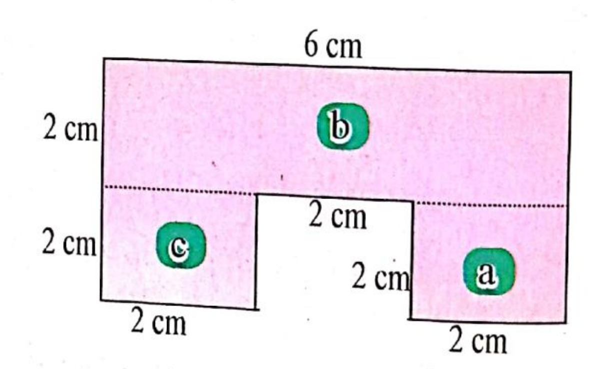
Area of (b) $= 2 \times 2 = 4$ cm²

Area of (c) $= 2 \times 4 = 8$ cm²

Area of shape $= 8 + 4 + 8 = 20$ cm²

Second strategy :

Divide the shape into 3 shapes as show then follow.



Area of (a) = ...

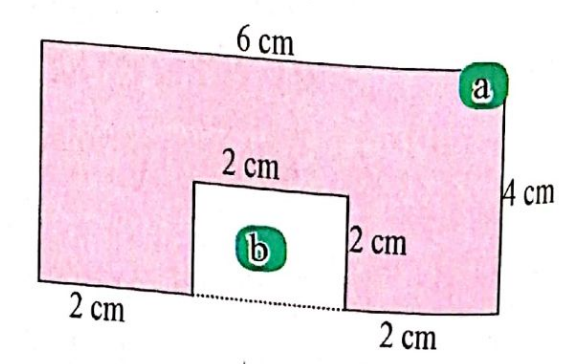
Area of (b) = ...

Area of (c) = ...

Area of shape = ...

Third strategy :

Complete the rectangle



Area of (a) $= 4 \times 6 =$ .... cm²

Area of (b) $= 2 \times 2 =$ .... cm²

Area of required shape = ... - ....



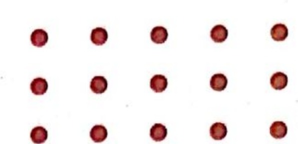
= .... cm²

Lesson (67 , 68)

Word Problems

Activity 1 Put (√) or (×) :

 **Array name**



(a) Array 5 by 3 (×) Array : number of row by number of column

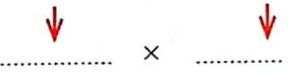


(b) Array 3 by 5 (√)

2 **Array name**

(a) Array 5 by 1 (.....) Array : number of row by number of column

(b) Array 1 by 5 (.....)



3 **Find** 6×8

(a) $6 \times 8 = 14$ (.....)

(b) $6 \times 8 = 48$ (.....)

> Notice
> the difference between the symbols + and × Where $6 + 8 = 14$

4 **Find** $30 \div 6$

(a) $30 \div 6 = 24$ (.....)

(b) $30 \div 6 = 5$ (.....)

> Notice
> the difference between the symbols ÷ and - Where $30 - 6 = 24$

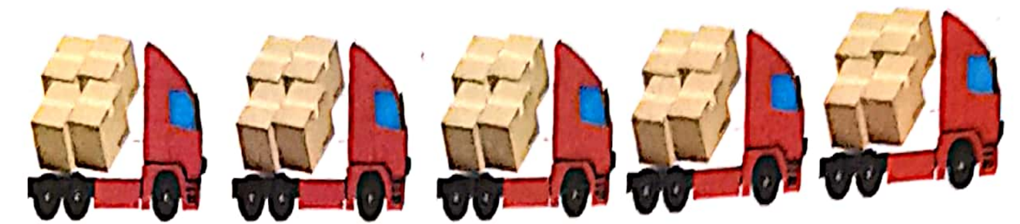
5 **Find** $(3 \times 4) \times 5$

(a) $(3 \times 4) \times 5 = 7 \times 5 = 35$ (.....)

(b) $(3 \times 4) \times 5 = (3 \times 5) + (4 \times 5) = 15 + 20 = 35$ (.....)

(c) $(3 \times 4) \times 5 = 12 \times 5 = 60$ (.....)

Activity 2 5 cars each car has 4 boxes ,each boxes has 3 bike . Find the number of all bikes ?



Number of bikes = No. Cars × No. Boxes × No. bike

= .... × .... × ....

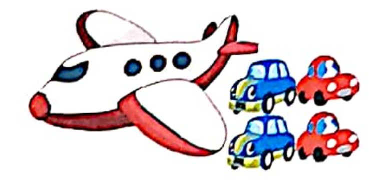
= (........ × ....) × ....

= .... × .... = ... bikes

Practice *

3 planes arrived at the airport, including : 2 planes in each plane 4 cars, and the third plane has only one car. How many cars arrived at the airport?







The first method

Number of Cars = [No.of cars on The first plane] + [No.of cars on The second plane] + [No.of cars on The third plane]

= .... + ... + ...

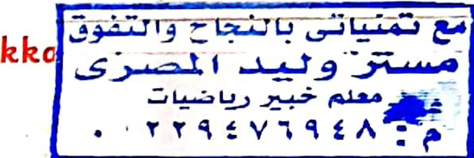
= (........ + ...) + ... = ... Cars

The second method

Number of Cars = 2 × [numbers of cars on the first plane] + [numbers of cars on the third plane]

= (2 × ....) + ...

= .... + ... = ... Cars



Activities from Math Journal

Activity When solving each of the following problems:
Put (√) or (×) :

1

If you have 3 bags , each bag contained 6 pieces of apples. How many apples did you have in all ?

a) Solution : The number of apples = 3 + 6 = 9 apples (.......)
b) Solution : The number of apples = 6 ÷ 3 = 2 apples (.......)
c) Solution : The number of apples = 6 × 3 = 18 apples (.......)

2

4 boxes each has 3 bags of apples , each bags has 6 apples. How many apples in all ?

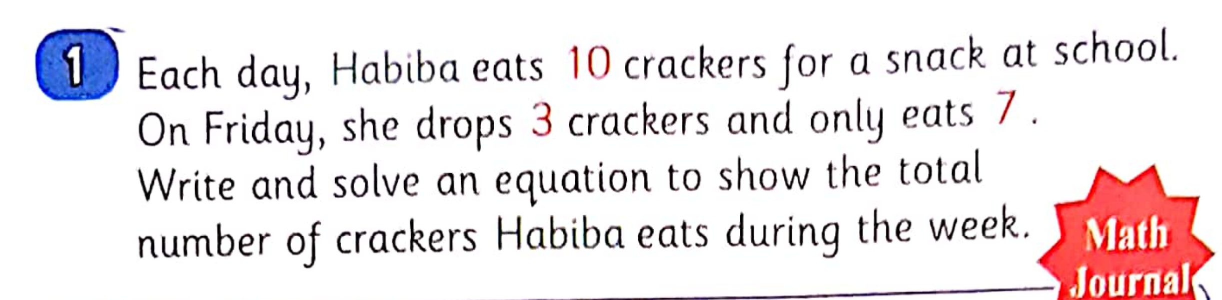
a) Solution : The number of apples = 3 + 4 + 6 = 13 apples (.......)
b) Solution : The number of apples = (6+4) × 3 = 30 apples (.......)
c) Solution : The number of apples = 3 × 6 × 4 = 72 apples (.......)

3

Ali earns 25 LE per week for doing all his chores. On the fourth week, he forgets to take out the trash , so he only earns 20 LE . Write and solve an equation to show how much Ali earns in 4 weeks.

a) Solution : Number of pounds = 25+25+25+25 = 100 LE. (.......)
b) Solution : Number of pounds = 25+25+25+20 = 95 LE. (.......)
c) Solution : Number of pounds = (25 × 3) + 20 = 95 LE. (.......)

Self - check on lesson (67, 68)



1 Each day, Habiba eats 10 crackers for a snack at school. On Friday, she drops 3 crackers and only eats 7. Write and solve an equation to show the total number of crackers Habiba eats during the week.

Math Journal

- **a** Solution : The number of what Habiba ate = $10 \times 7 = 70$ piece. (......)
- **b** Solution : The number of what Habiba ate = $(10 \times 7) - 3 = 70 - 3 = 67$ piece. (......)
- **c** Solution : The number of what Habiba ate = $(10 \times 6) + 7 = 60 + 7 = 67$ piece. (......)
- **d** Solution : The number of what Habiba ate = $10 + 10 + 10 + 10 + 10 + 10 + 7 = 60 + 7 = 67$ piece. (......)

2 Laila buys 24 seeds. She has 5 pots. She wants to plant 3 seeds in each pot. How many more pots does Laila need to plant all of her seeds?



- **a** Solution : Number of pots used = $24 \div 3 = 8$ pots
  Number of pots required = $8 - 5 = 3$ pots (......)
- **b** Solution : Number of pots used = $24 \div 3 = 8$ pots
  Number of pots required = $8 + 5 = 13$ pots (......)
- **c** Solution : Number of pots required = $(24 \div 3) - 5 = 8 - 5 = 3$ pots (......)

3 Mrs. Mariam baked 24 chocolate chip cookies. She divided the cookies equally into 4 containers. Then, she baked more cookies so that she could put 4 more cookies in each container. How many cookies are in each container?



a Solution : Number of pieces in each container

$= 24 \div 4 = 6$ pieces

The number of pieces after the addition

$= 6 + 1 = 7$ pieces (......)

b Solution : Number of pieces in each container

$= 24 \div 4 = 6$ pieces

The number of pieces after the addition

$= 6 + 4 = 10$ pieces (......)

c Solution : Number of pieces after addition

$= (24 \div 4) + 4$

The number of pieces after the addition

$= 6 + 4 = 10$ pieces (......)

4 Emad earned money for completing extra chores. He earned 8 LE per hour cleaning the bedrooms. He worked for 3 hours. He also earned an extra 16 LE for vacuuming the entire house. How much money did Emad earn?



a Solution : Emad's whole wage $= 8 + 16 = 24$ pounds (......)

b Solution : 3 hour fare $= 8 \times 3 = 24$ pounds

The whole fare $= 24 + 16 = 40$ pounds (......)

c Solution : All of Baptist's wages $= (8 \times 3) + 16$

$= 24 + 16 = 40$ pounds (......)

d Solution : The house cleaning fee $= 8 + 8 + 8 = 24$ pounds

Fee for a vacuum cleaner $= 16$ pounds

The whole fare $= 24 + 16 = 40$ pounds. (......)

Lesson (69 , 70)

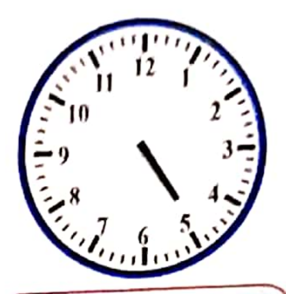
Time



Activity 1 Remember that :







The time about 3 the short hand very near to 3	The time about 7 the short hand very near to 7	The time about 5 the short hand very near to 5

Activity 2 Notice the two hands then write the time :

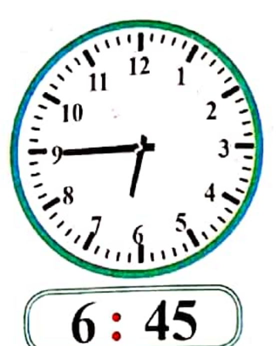




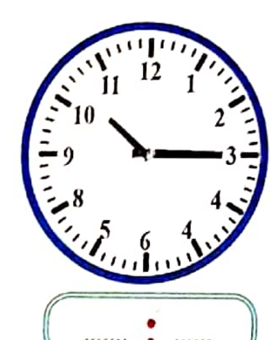
3 : 30



5 : 15

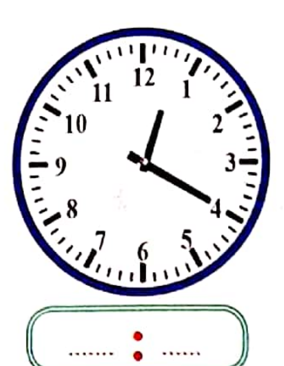


6 : 45



...... : ......

...... : ......



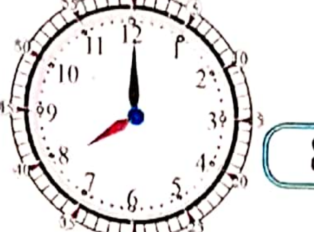
...... : ......



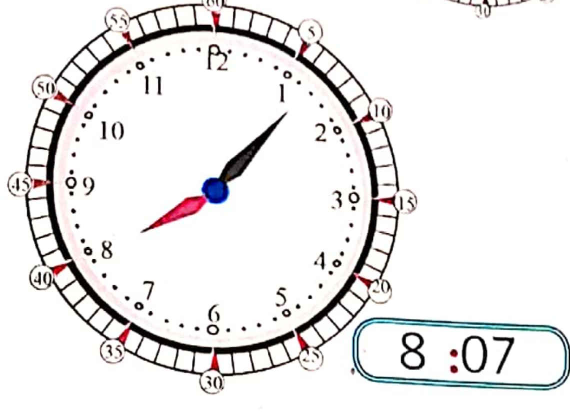
Remember that :

1 day = 24 hours

1 hour = 60 minute

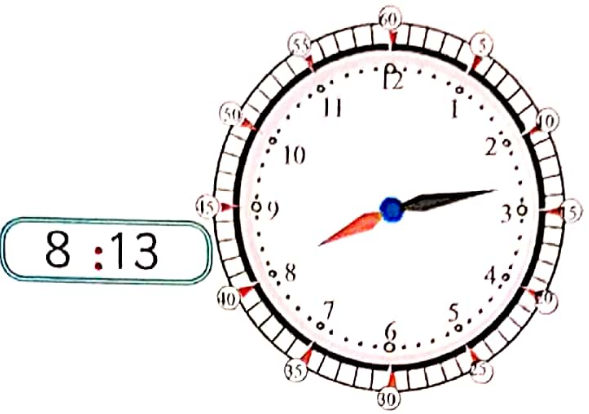


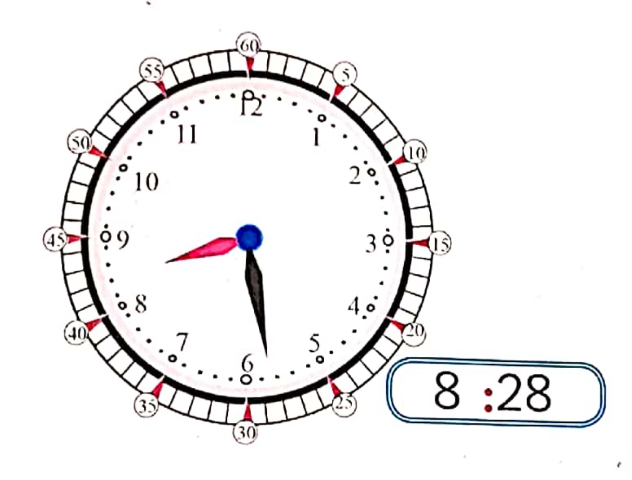
8 :00



8 :07

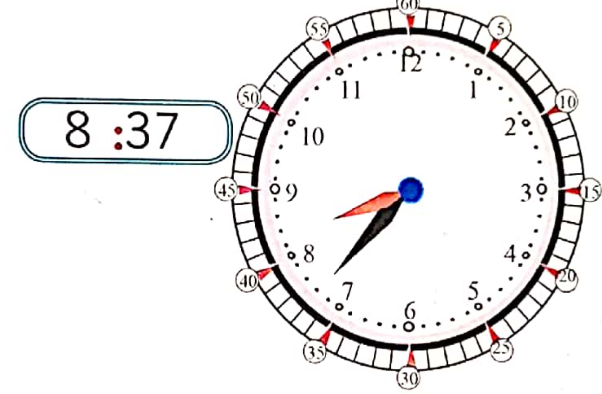
8 :13

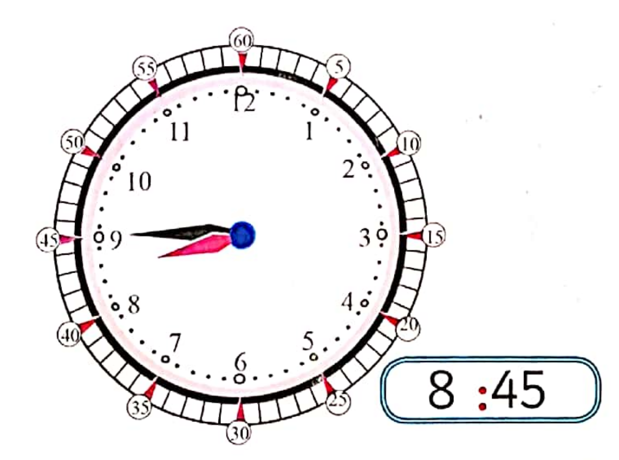




8 :28

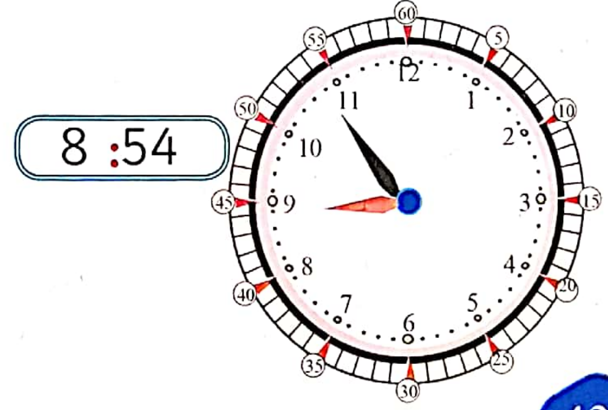
8 :37





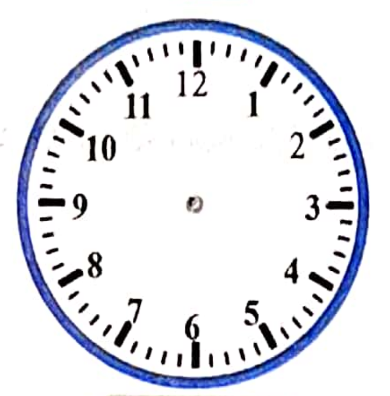
8 :45

8 :54

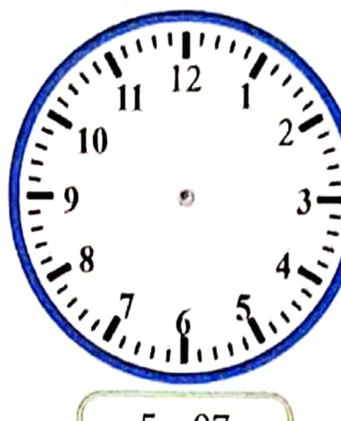


Bakkar 1

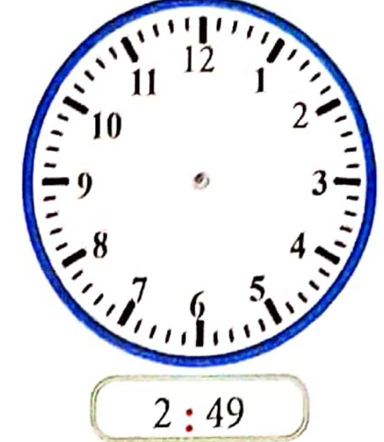
Practice 1 Draw hands according to the time :



4 : 27



5 : 07



2 : 49

6 : 35

7 : 18

1 : 11

Practice 2 Complete :

(a) One hour = ... minutes

(b) $\frac{1}{2}$ hour = ... minutes

(c) .... hours = 15 minutes

(d) 2 hour = ... minutes

(e) $\frac{1}{3}$ hours = ... minutes

(f) ..... hours = 180 minutes

(g) 3 hours = ... minutes

(h) 5 hours = ... minutes

(i) .... hours = 240 minutes

(j) ..... hours = 150 minutes

(k) $1\frac{1}{3}$ hours = ... minutes

(l) $1\frac{1}{4}$ hour = ... minutes

Self - check on lesson (69 , 70)

1 Join as in (a) :

a	One hour	=	.... minute	15
b	$\frac{1}{4}$ hour	=	.... minute	60
c	.... hour	=	20 minute	150
d	2 hours and half	=	.... minute	80
e	$\frac{1}{2}$ hour	=	.... minute	Third
f	.... hour	=	180 minute	3
g	$1\frac{1}{3}$ hour	=	.... minute	30

2 Arrange the following:

a $\frac{1}{3}$ hour , one hour , 90 minutes , $\frac{1}{3}$ hour , 45 minutes

In an ascending order : $\frac{1}{3}$ hour, ...

Solution $\frac{1}{3}$ hr = ... minute , one hour = ... minute , $\frac{1}{3}$ hr = ... minute

In an ascending order : ....

b $\frac{1}{4}$ hour , 20 minutes , hour , 90 minutes , $\frac{2}{3}$ hour

In a descending order : ....

Solution $\frac{1}{4}$ hr = ... minute , one hour = ... minute , $\frac{2}{3}$ hr = ... minute

In a descending order : ....



4 Join the equal as the Ex :

2 weeks	Quarter a year	15 Minutes	30 minutes
Quarter an hour	14 Days	Half an hour	3 Months

5 Area of rectangle 24 cm^2 , it's length 8 cm . Find it's width :

Solution

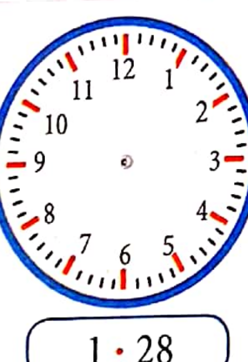
8 cm

24 cm^2

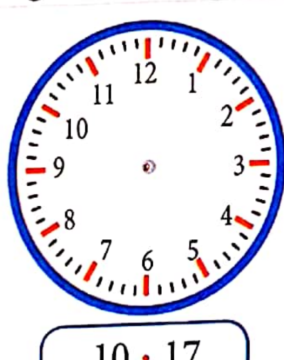
Area of rectangle = length × width

Width = Area ÷ length = ... ÷ 8 = ... cm

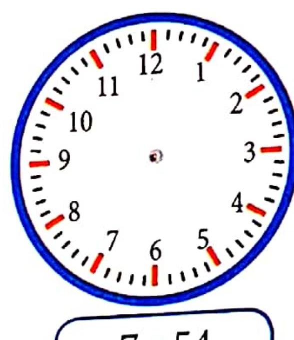
6 Draw hands according to the time :



1 : 28



10 : 17



7 : 54

7 Hassan has 3 boxes each box has 4 bags , each bag has 6 toys. What is the number of all toys?

Solution

Number of toys = ... × .... × .... = (.......... × ....) × ....

= .... × .... = ... toys

Self - check 2 Chapter 1

1 Choose the correct answer :

a) An hour = ... minutes (30 , 60 , 20 , 15)

b) Number of week's days = ... days (7 , 6 , 5 , 8)

c) From the factors of (15) .... (7 , 5 , 10 , 2)

d) 120 minutes = ... hours (2 , 3 , 1 , 4)

e) 30 ÷ 6 = ... (24 , 6 , 5 , 10)

f) The perimeter of square with side 7 cm = ... cm (11 , 28 , 14 , 21)

2 Complete :

a) (4 × 5) × ...... = 20

b) 3 × (2 × ......) = 18

c) (27 ÷ 3) + 1 = ...

d) (9 - 9) × 5 = ...

e) 27 ÷ .... = 3

f) 10 × .... = 50

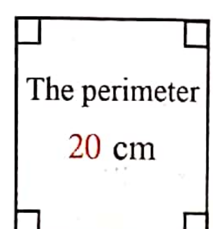
3 Find the Area of a square whose perimeter 20 cm :

Solution

Side length = perimeter ÷ 4 = ... cm

Area of square = side × itself

= .... × .... = ... cm^2



4. I have a bag with pens and markets inside.
The objects in my bag have a mass of 100 grams in all.
There are 4 pens , each with a mass of 10 grams.
How many markets do I have in my bag
if each market has a mass of 20 grams ?

Math Journal

Solution

A mass of all pens = ... gram

A mass of pens = 10 × 4 = ... gram

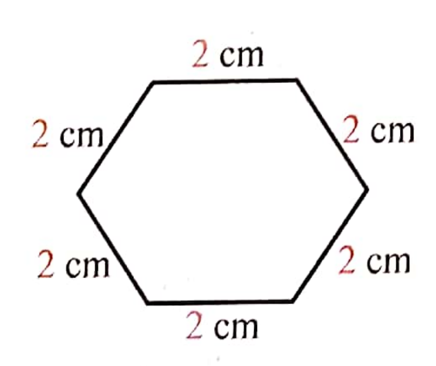
A mass of markers = 100 - 40 = ... gram

Number of markers = 60 ÷ 20 = ... Pen

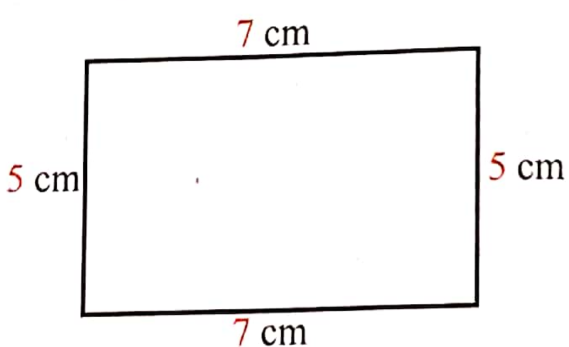
5. Join the equal :

a	72 hours = ... days	Quarter
b	2 days = ... hours	240
c	.... hours = 15 minute	3
d	10 days = ... hours	48

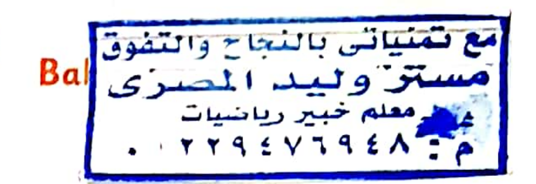
6. Find the perimeter of the following :



The perimeter = ... cm



The perimeter = ... cm







Vocabulary

English	Arabic
Eighths	أثمان
Equal parts	أجزاء متساوية
Fair shares	تقسيم بالتساوي
Fourths	أرباع
Fraction	كسر
Halves	أنصاف
Thirds	أثلاث
Whole 1	واحد صحيح
Denominator	المقام
Numerator	البسط
Unit Fraction	كسر الوحدة

English	Arabic
Greater than	أكبر من
Less than	أقل من
Gram	جرام (جم)
Kilogram	كيلو جرام(كجم)
Mass	كتلة
Set	مجموعة
Divide	يقسم
Division	تقسيم - قطاع
Factors	عوامل
Break the unit	جزء الوحدة
Represents	يعرض



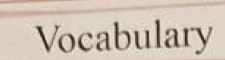
Lesson (71 , 72)

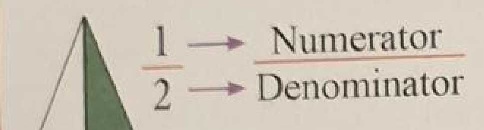
The fraction as a part of 1

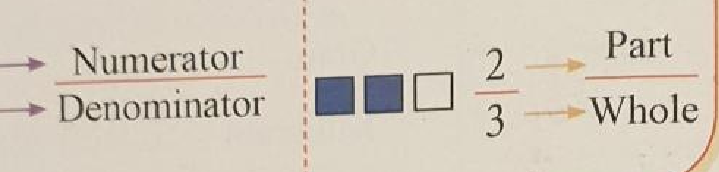
The fraction

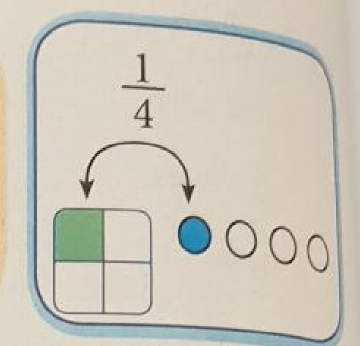
A number that expresses the number of equal parts of whole numbers, or the number of elements in a group of things.



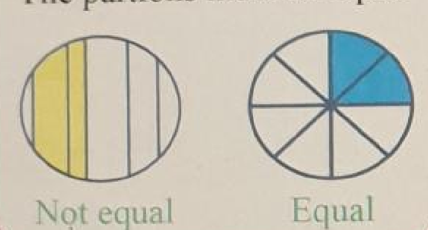




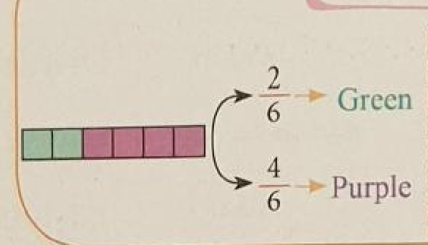


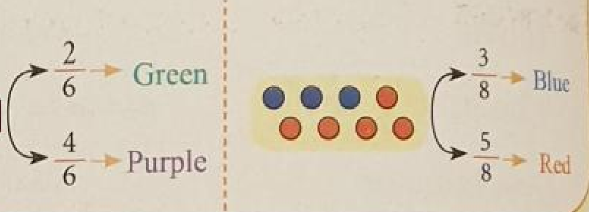


The partions must be equal



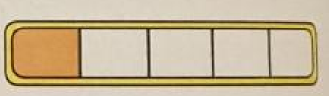
Part of all

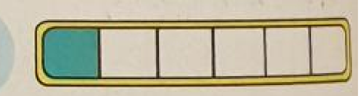




Vocabulary

Word	Fraction
Whole one	1
Half	$\frac{1}{2}$
Third	$\frac{1}{3}$
Fourth	$\frac{1}{4}$
Fifth	$\frac{1}{5}$
Sixth	$\frac{1}{6}$
Seventh	$\frac{1}{7}$
Eighth	$\frac{1}{8}$







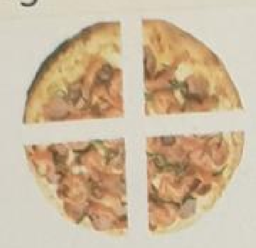




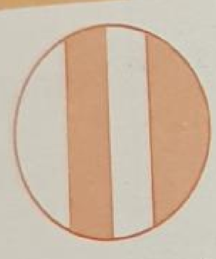
If 2 people want to share a cookie fairly, which image shows how they should cut the cookie?

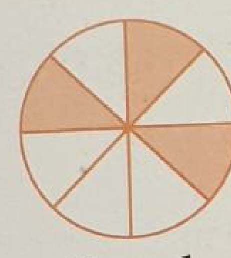
actice 1 If 4 people want to share a cookie fairly, Which image shows how they should cut the cookie ?

e fraction Represents equal parts of the one :



Not equal



Equal

The parts must be equal

Writing fraction

$\frac{3}{4}$

3 → Numerator (number of coloured parts)

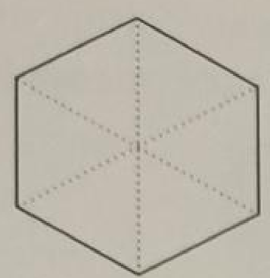
4 → Denominator (number of all parts)

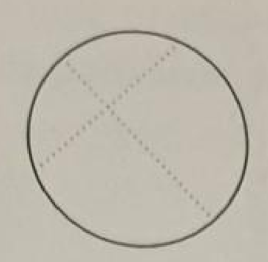
Unit fraction The fraction that has 1 in the numerator

Ex : $\frac{1}{9}$ $\frac{1}{2}$ $\frac{1}{7}$ $\frac{1}{3}$ $\frac{1}{6}$ $\frac{1}{4}$ $\frac{1}{5}$ $\frac{1}{8}$

Practice 2 Circle the shapes that are divided into equal parts (fair shares) :

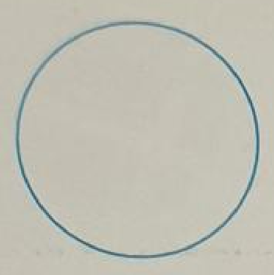
Math Journal



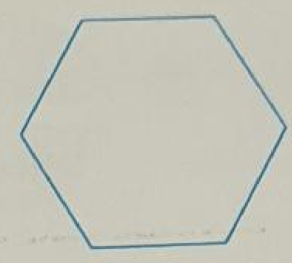




Practice 3 Divide the following shapes into the fractional part listed below :

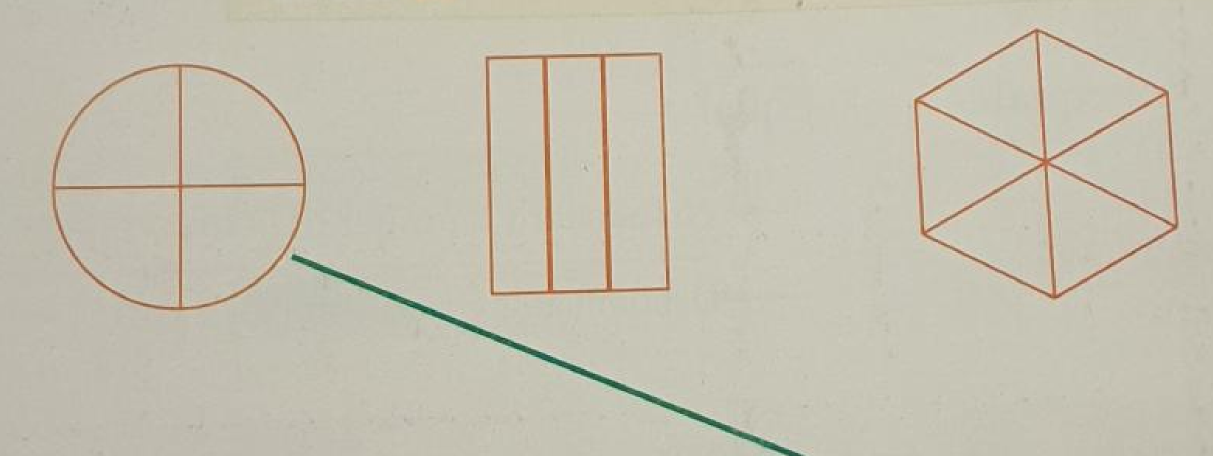


Four equal parts (Fourths)

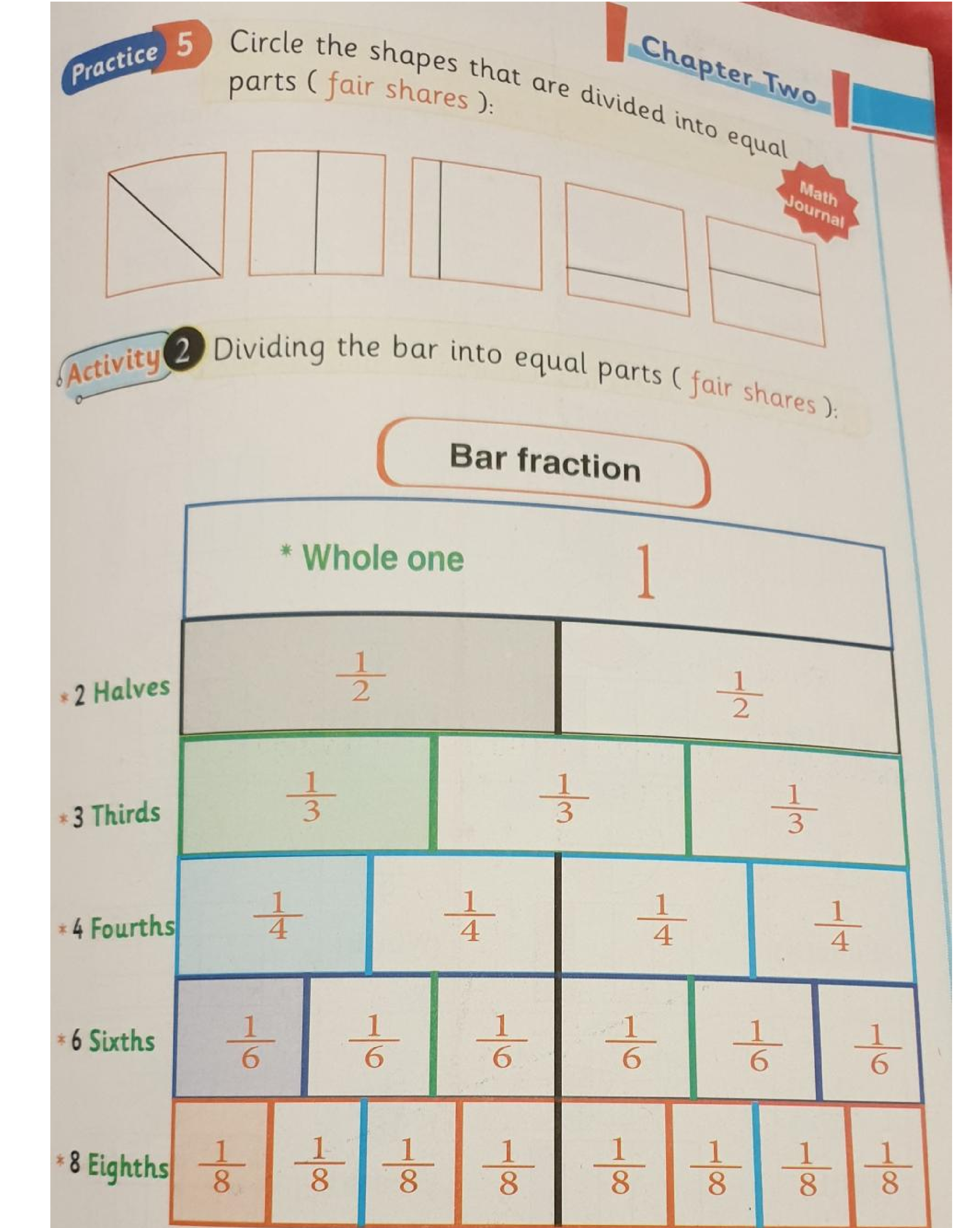


Six equal parts (Sixths)

Practice 4 Match the picture of the fraction to it's name as the Ex :



Third - Thirds   Sixth - Sixths   Fourth - Fourths

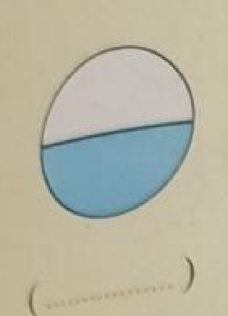

Chapter Two
Practice 5
Circle the shapes that are divided into equal parts (fair shares):
Math Journal
Activity 2
Dividing the bar into equal parts (fair shares):
Bar fraction
* Whole one
1
* 2 Halves
$\frac{1}{2}$ $\frac{1}{2}$
* 3 Thirds
$\frac{1}{3}$ $\frac{1}{3}$ $\frac{1}{3}$
* 4 Fourths
$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$
* 6 Sixths
$\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$
* 8 Eighths
$\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$

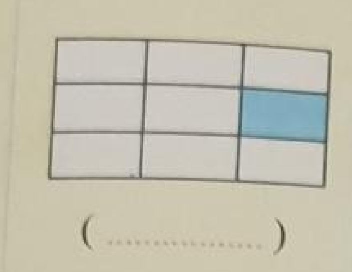
Activity 3 Notice :

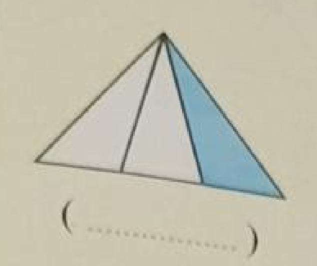
Part	Shape	Part	Shape
1 (Whole)		$\frac{1}{6}$ (Sixth)	
$\frac{1}{2}$ (Half)		$\frac{1}{7}$ (Seventh)	
$\frac{1}{3}$ (Third)		$\frac{1}{8}$ (Eighth)	
$\frac{1}{4}$ (Fourth)		$\frac{1}{9}$ (Ninth)	
$\frac{1}{5}$ (Fifth)		$\frac{1}{10}$ (Tenth)	

Self - check on lesson (71 , 72)

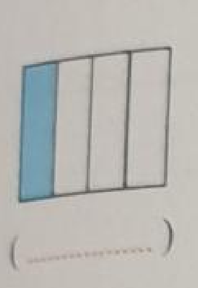
1 Write the fraction according to the coloured part :

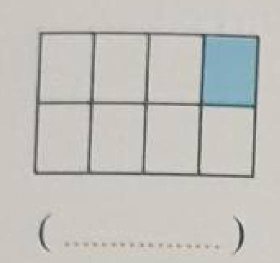

(..................)

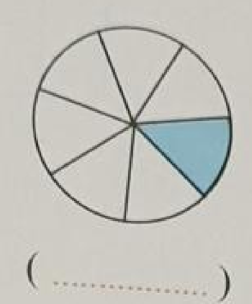

(..................)

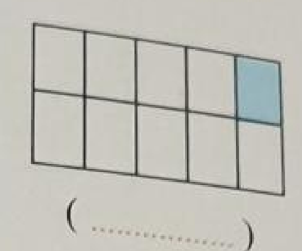

(..................)

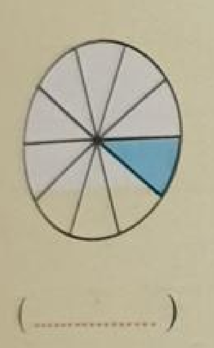

(..................)

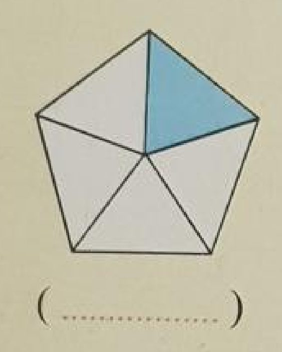

(..................)

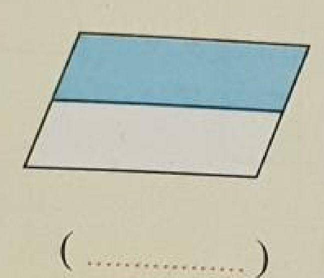

(..................)

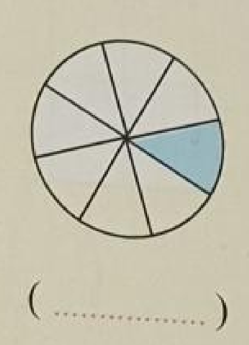

(..................)

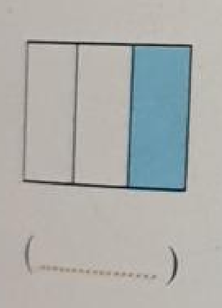

(..................)

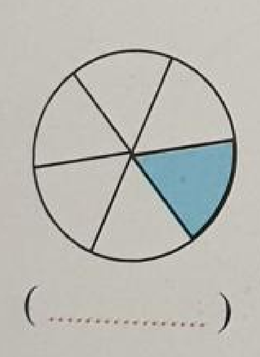

(..................)

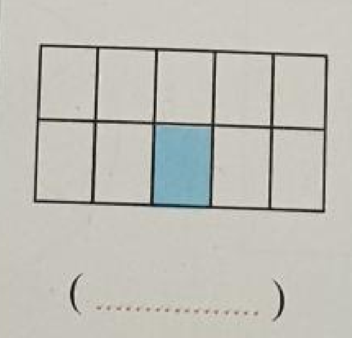

(..................)

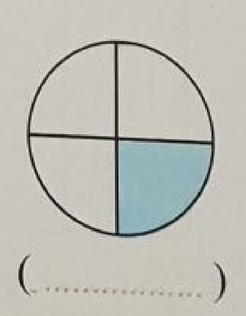

(..................)


(..................)

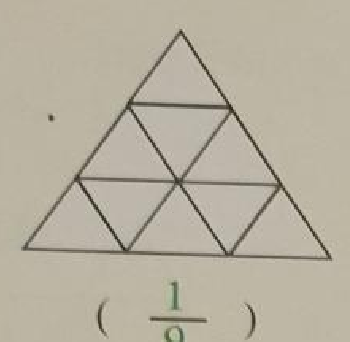

(..................)


(..................)

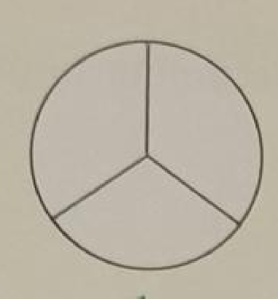

(..................)


(..................)

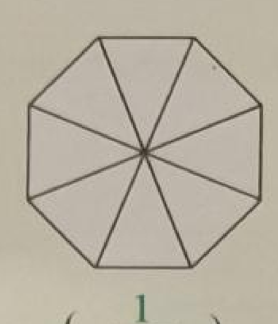
2 Colour according to the fraction :



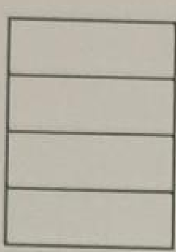
($\frac{1}{9}$)



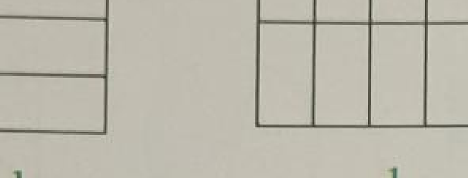
($\frac{1}{3}$)



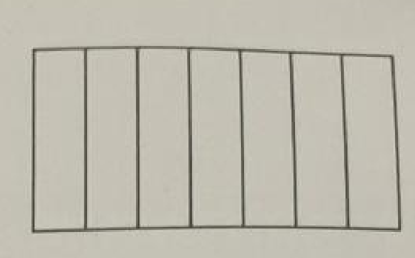
($\frac{1}{8}$)



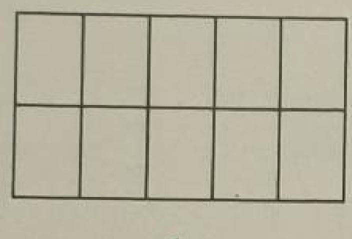
($\frac{1}{2}$)



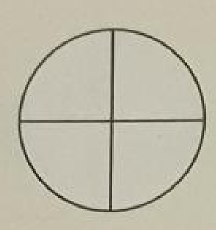
($\frac{1}{5}$)



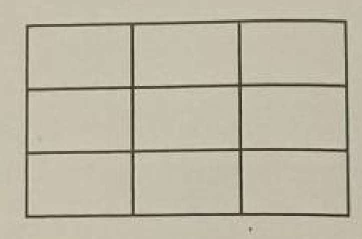
($\frac{1}{7}$)



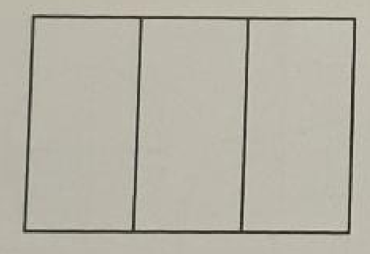
($\frac{1}{10}$)



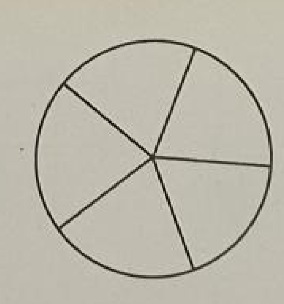
($\frac{1}{4}$)



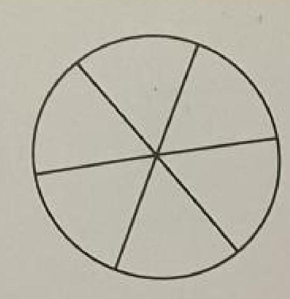
($\frac{1}{9}$)



($\frac{1}{3}$)



($\frac{1}{5}$)



($\frac{1}{6}$)

3 Join with the suitable shape :

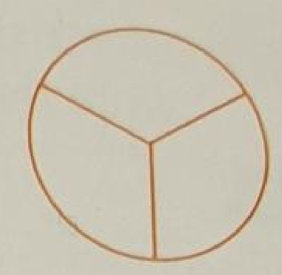
Eighth



Half



Third



4 Complete as in (a) :

a. $\left(\frac{1}{2}\right)$ = Half

b. .... = Sixth

c. $\left(\frac{1}{5}\right)$ = ...

d. $\left(\frac{1}{3}\right)$ = ...

e. .... = Seventh

f. $\left(\frac{1}{9}\right)$ = ...

g. $\left(\frac{1}{8}\right)$ = ...

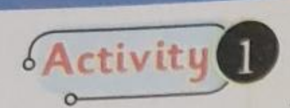
h. .... = Fourth

i. .... = Third

j. $\left(\frac{1}{10}\right)$ = ...

Lesson (73 , 74)

Word problems on fractions


Divide the clock face into two equal parts then write the number of minute in this part :

Solution Draw a line connect 6 and 12 shade the part that represent $\frac{1}{2}$ hr



One hour = 60 minute

Half an hour = 30 minutes **because** 30+30 =60

Practice 1 Divide the clock face into four equal parts then write the number of minute in this part :

Solution



Draw line connect 6 and .... ,

Draw line connect 3 and 9 .

Shade the part that represent $\frac{1}{4}$ hr

Quarter of an hour = ... **minutes**

Because : .... + ... + ... + ... = 60

Practice 2 Divide the clock face into three equal parts then write the number of minute in this part :

Solution



Draw line connect the centre and 12 ,

draw line connect the centre and 4

and draw line connect the centre and ....

shade the part that represent .... hr

A third of an hour = ... **minutes**

Because : .... + ... + ... = 60

Practice 3 Write the fraction that represent the shaded part:

...... / .... / .... / .... / ......

Practice 4 Noran has a long loaf . She wants to share it with 2 of her friends . Colour the fraction bar model that expresses this :

Math Journal

Hint: Number Of parts 3

Practice 5 Rami has a long piece of wood . He needs to cut it into enough pieces to share with his 7 friends. Colour the fraction bar model that expresses this :

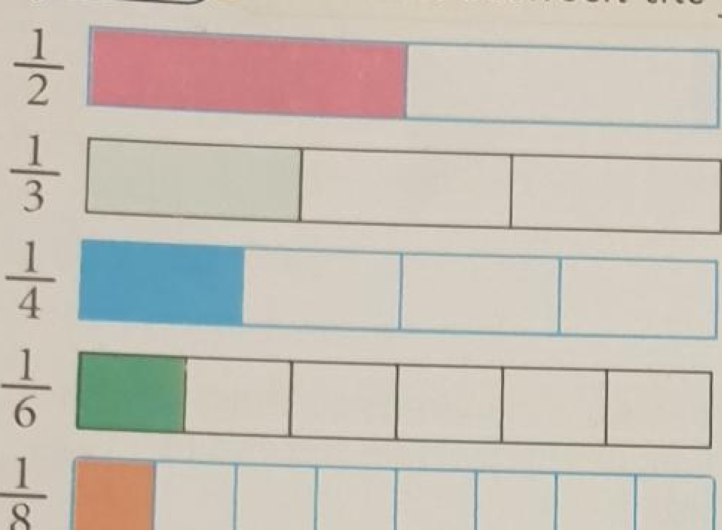
Math Journal

Hint: Number Of parts 8

Practice 6 Samir has a candy bar . He took 2 days to eat it and ate the same amount each day. On Monday, he ate 1 piece. On Tuesday he ate 1 more piece. Colour the fraction bar model that expresses this :

Math Journal

Activity 2 Relation between the fraction :



The greatest part is $\frac{1}{2}$

The smallest part is $\frac{1}{8}$

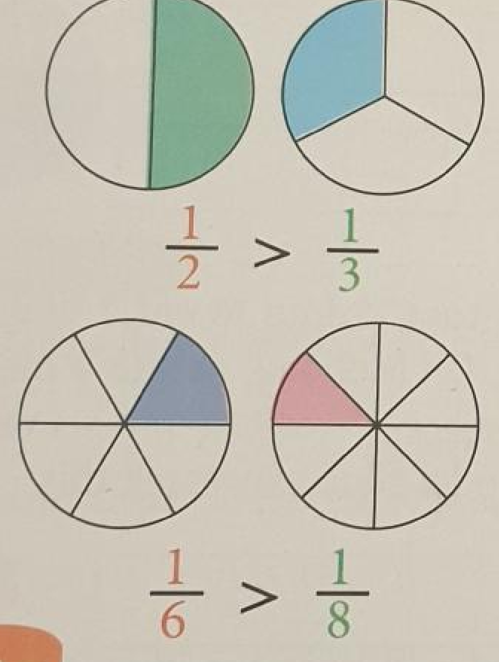
Notice

The larger denominator, mean the smaller fraction in value

From the above we find that

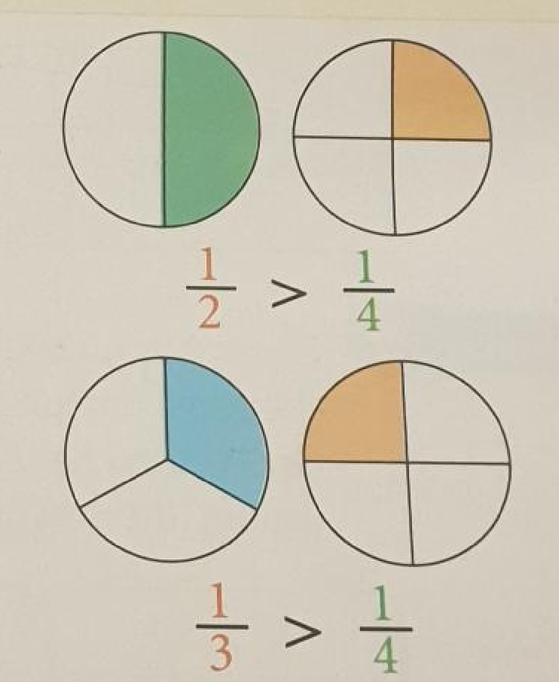
$$\frac{1}{2} > \frac{1}{3} > \frac{1}{4} > \frac{1}{6} > \frac{1}{8}$$

Activity 3 The relationship between fractions on the parts of a circle



$\frac{1}{2} > \frac{1}{3}$

$\frac{1}{6} > \frac{1}{8}$

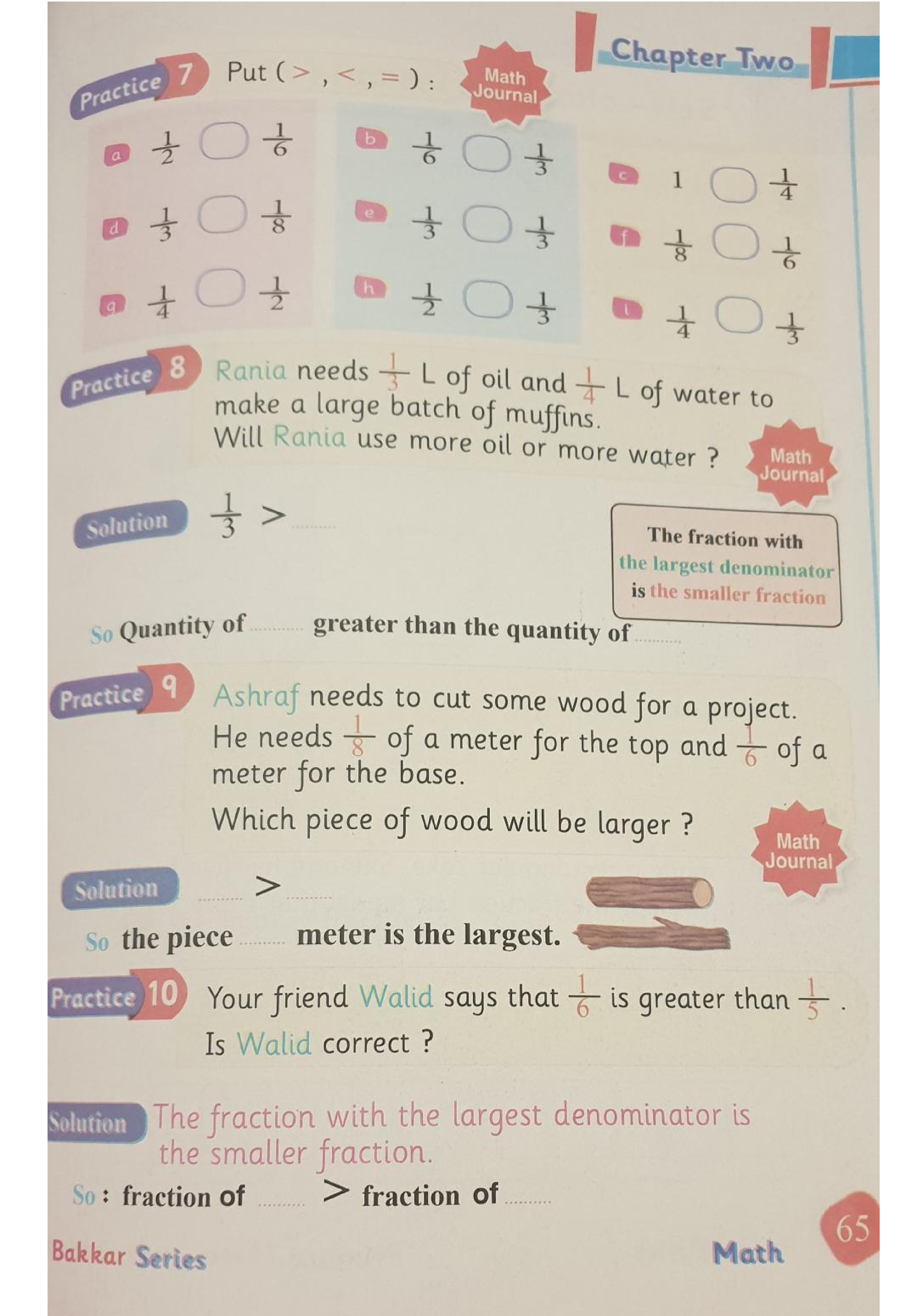


$\frac{1}{2} > \frac{1}{4}$

$\frac{1}{3} > \frac{1}{4}$

Notice

The larger denominator, mean the smaller the fraction



Practice 7 Put ($>$, $<$, $=$) : Math Journal

a $\frac{1}{2}$ ◯ $\frac{1}{6}$ b $\frac{1}{6}$ ◯ $\frac{1}{3}$ c 1 ◯ $\frac{1}{4}$

d $\frac{1}{3}$ ◯ $\frac{1}{8}$ e $\frac{1}{3}$ ◯ $\frac{1}{3}$ f $\frac{1}{8}$ ◯ $\frac{1}{6}$

g $\frac{1}{4}$ ◯ $\frac{1}{2}$ h $\frac{1}{2}$ ◯ $\frac{1}{3}$ i $\frac{1}{4}$ ◯ $\frac{1}{3}$

Practice 8 Rania needs $\frac{1}{3}$ L of oil and $\frac{1}{4}$ L of water to make a large batch of muffins.
Will Rania use more oil or more water ? Math Journal

Solution $\frac{1}{3} >$ ....

The fraction with the largest denominator is the smaller fraction

So Quantity of .... greater than the quantity of ....

Practice 9 Ashraf needs to cut some wood for a project.
He needs $\frac{1}{8}$ of a meter for the top and $\frac{1}{6}$ of a meter for the base.
Which piece of wood will be larger ? Math Journal

Solution .... $>$ ....

So the piece .... meter is the largest.

Practice 10 Your friend Walid says that $\frac{1}{6}$ is greater than $\frac{1}{5}$.
Is Walid correct ?

Solution The fraction with the largest denominator is the smaller fraction.

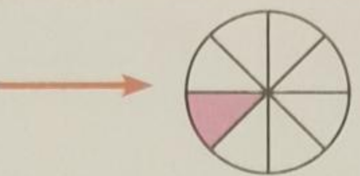
So : fraction of .... $>$ fraction of ....

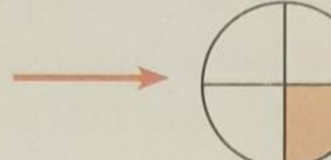
Self - check on lesson (73 , 74)

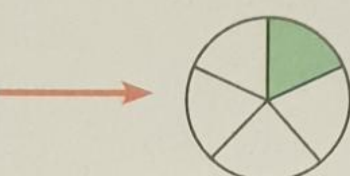
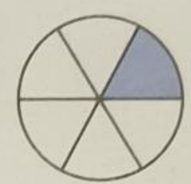
1 Notice the figure then compare using (> , < , =) :

Remember The fraction with the largest denominator is the smaller fraction

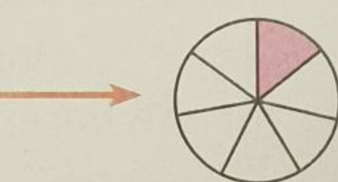


a) $\frac{1}{8}$  $\frac{1}{6}$  

b) $\frac{1}{4}$ .... $\frac{1}{5}$  

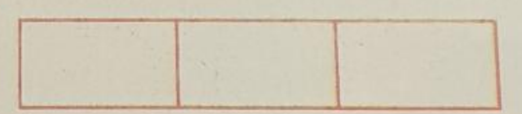
c) $\frac{1}{5}$ .... $\frac{1}{6}$  

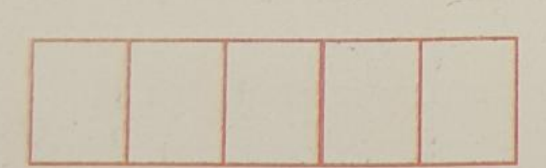
d) $\frac{1}{7}$ .... $\frac{1}{6}$   

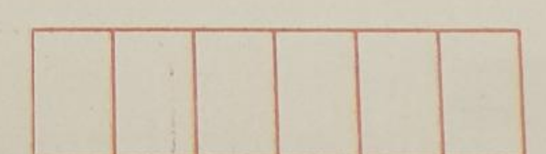
e) $\frac{1}{7}$ .... $\frac{1}{8}$  

2 Dalia made a rectangular cake. She and her five friends ate it . Colour the fraction bar model that expresses this :









3 Circle the greatest fraction :

$\frac{1}{3}$ $\frac{1}{4}$

$\frac{1}{4}$ $\frac{1}{3}$ $\frac{1}{2}$

$\frac{1}{6}$ $\frac{1}{4}$ $\frac{1}{3}$ $\frac{1}{5}$

$\frac{1}{8}$ $\frac{1}{6}$ $\frac{1}{4}$

$\frac{1}{9}$ $\frac{1}{8}$

$\frac{1}{8}$ $\frac{1}{9}$ $\frac{1}{6}$ $\frac{1}{7}$

4 Arrange the following fraction :

a) $\frac{1}{3}$, $\frac{1}{2}$, $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{4}$

In an ascending order : .... , ... , ... , ... , ...

b) $\frac{1}{9}$, $\frac{1}{5}$, $\frac{1}{7}$, $\frac{1}{10}$, $\frac{1}{3}$

In a descending order : .... , ... , ... , ... , ...

5 Circle the smaller fraction :

$\frac{1}{5}$, $\frac{1}{8}$

$\frac{1}{4}$, $\frac{1}{5}$

$\frac{1}{3}$, $\frac{1}{2}$

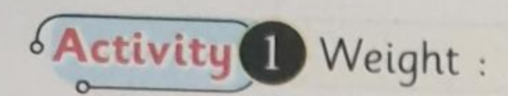
$\frac{1}{6}$, $\frac{1}{9}$

$\frac{1}{12}$, $\frac{1}{10}$

$\frac{1}{6}$, $\frac{1}{7}$

Lesson (75 , 76)

Comparing two unit fractions with different volume



Activity 1 Weight :



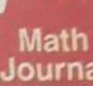
* The kilogram is used to measure heavy things
* The gram is used to measure the light things .



1 kilogram = 1000 gram

Practice 1

Circle the suitable unit of weight for each estimation as the Ex :





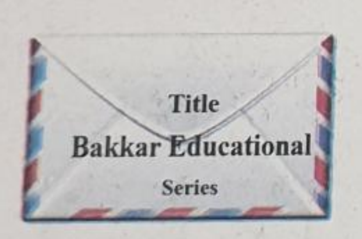
3 (Gram - Kilogram)



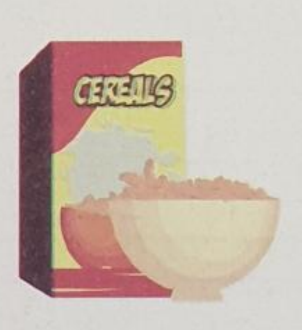
15 (Gram - Kilogram)



58 (Gram - Kilogr



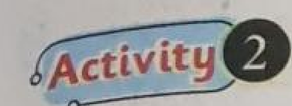
6 (Gram - Kilogram)



350(Gram - Kilogram)



4 (Gram - Kilo



2 Write the fraction that represent the number of girls :

Numerator (Number of girls) → $\frac{1}{2}$

Denominator (all Number) →

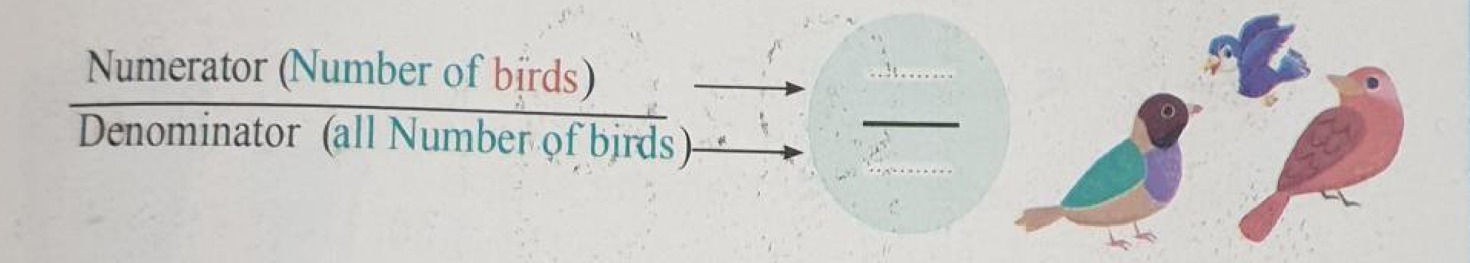



Practice 2 Write the fraction that represent the red apple :

Numerator (Number of red apples) → ......

Denominator (all Number of apples) → 5

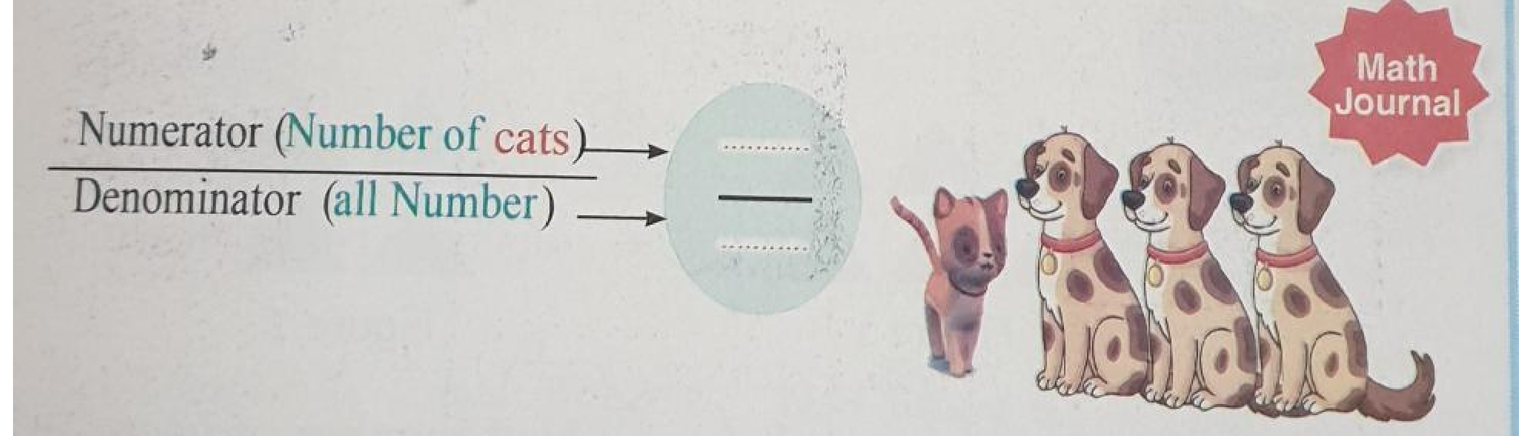
Practice 3 Write the fraction that represent the small bird :



Numerator (Number of birds) → ......

Denominator (all Number of birds) → ......

Practice 4 Write the fraction that represent the number of cats:



Numerator (Number of cats) → ......

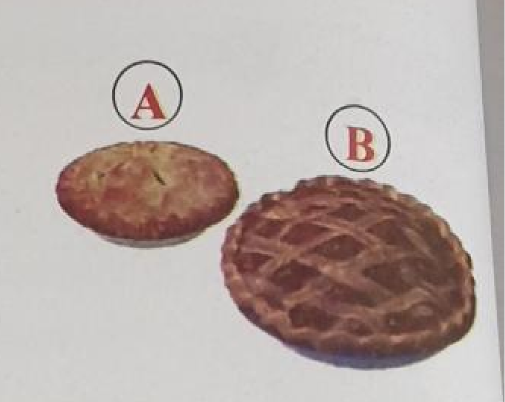
Denominator (all Number) → ......

Activity 3 Which is greater? :

The pie (B) > The pie (A)

So : half (B) > half (A)

So : $\frac{1}{2}$ (B) > $\frac{1}{2}$ (A)



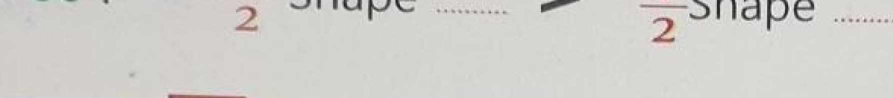
Practice 5 Which is greater half (A) or half (B) ? :

* Shape .... > Shape ....

So : half the shape .... > Half the shape ....

So : $\frac{1}{2}$ Shape .... > $\frac{1}{2}$ Shape ....



Practice 6 Which has less:
Half figure (A) or half figure (B) ? :

* Shape .... < Shape ....

So : Half the shape .... < Half the shape ....

So : $\frac{1}{2}$ Shape .... < $\frac{1}{2}$ Shape ....





Practice 7 Complete using (> , = , <) :

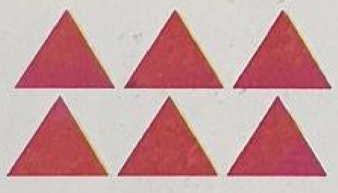


Figure 1



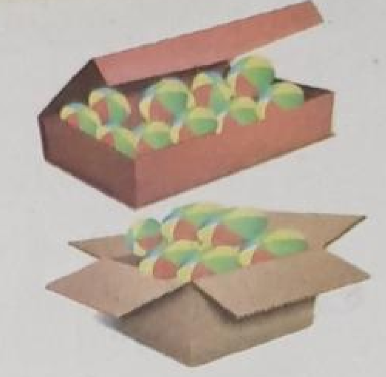
Figure 2

Half number of figure 1  .... Half number of figure 2



Activity 4 Which is greater half a box with 6 balls or half a box with 10 balls ?:

Solution



The box that has 10 balls	>	The box that has 6 balls
Half the box that has 10 balls	>	Half the box that has 6 balls

Practice 8 Which is longer :
Half Saturday or half time of lunch ?

Solution

* Saturday That has ...... hr	Longer than	* Time of lunch That take ...... hr
* Half Saturday That has ...... hr	Longer than	* Half Time of lunch That take ...... hr

Remember

One day 24 hr

Time of lunch about 1 hr

Practice 9 Complete using (> , = , <) :

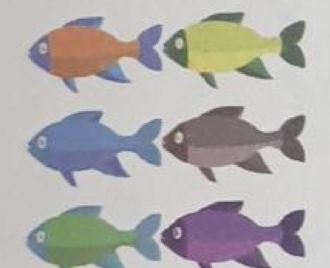


Figure A





Figure B



Figure C

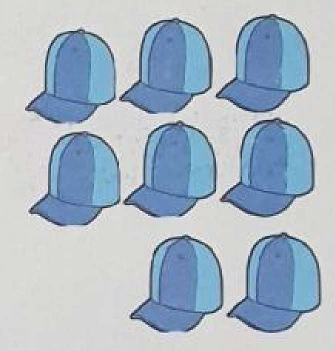


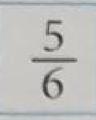
Figure D

Half figure A  half figure B

Half figure C  half figure D

Self - check on lesson (75 , 76)

1 Circle according to the fraction as in (a) :

a  $\frac{5}{6}$

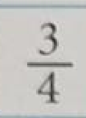


b $\frac{1}{3}$



c $\frac{2}{7}$



d  $\frac{3}{4}$



e $\frac{3}{5}$



 f $\frac{7}{8}$

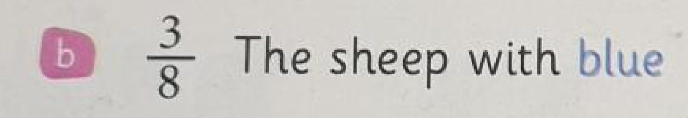


2 Colour as the fraction :



a $\frac{1}{8}$ The sheep with red

b $\frac{3}{8}$ The sheep with blue



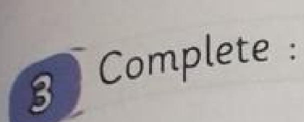
c $\frac{4}{8}$ The sheep with green



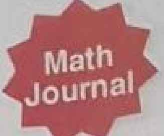
d Number of red sheep = ...

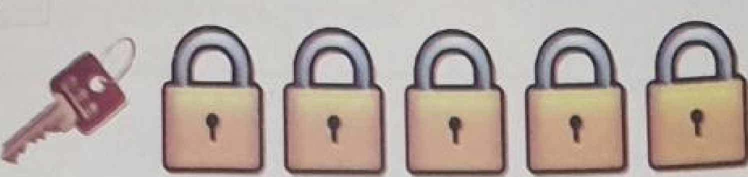


e Number of .... sheep is greater than number of blue sheeps.



3 Complete :





a. The fraction for the number of keys = $\frac{....}{....}$

b. The fraction for the number of locks = $\frac{....}{....}$

4 Witch has less: half figure (A) or half figure (B) :



Solution



* Figure (A) < Figure ....

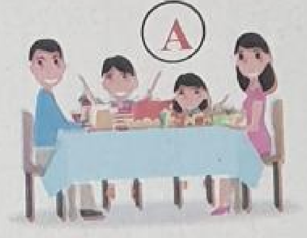


So : Half Figure .... < half Figure ....

So : $\frac{1}{2}$ Figure .... < $\frac{1}{2}$ Figure ....

5 Which is greater: half family (A) or half family (B) :

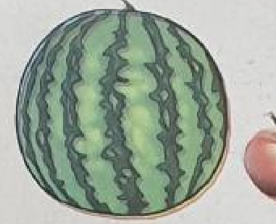
Solution



Family of (B) has 6 members	>	Family of .... has .... members
Half family of (B) has 3 members	>	Half family of .... has .... members



6 Complete :



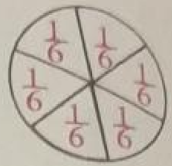
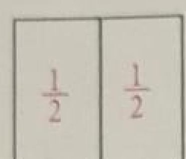
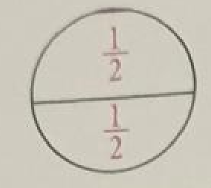
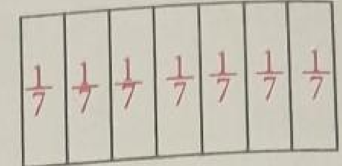
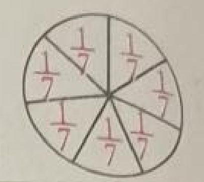
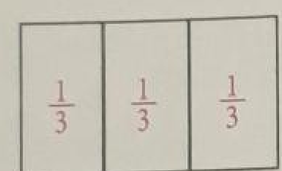
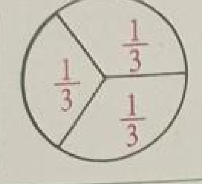
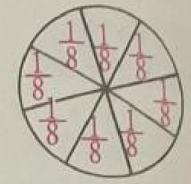
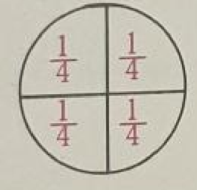
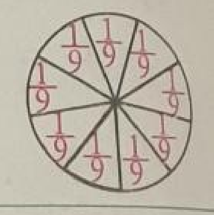
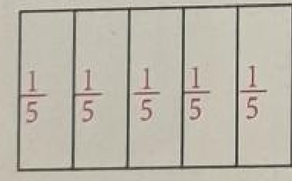
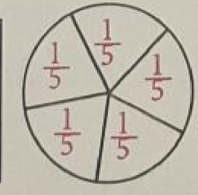
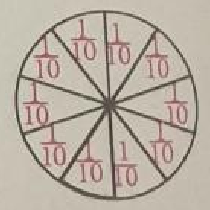
a. Weight of watermelon (......) Weight of apple



b. Half the weight of watermelon (......) half the weight of apple

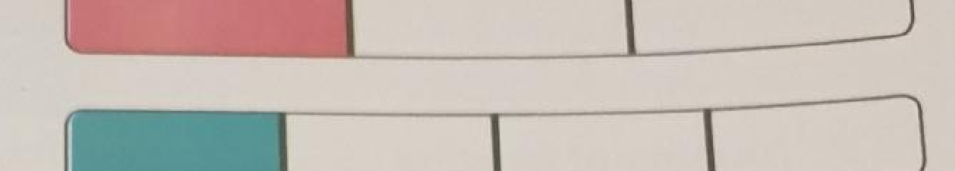
Relation between fraction

Activity 1 Notice :

Number of parts in 1	Number of parts in 1
1 One Whole one 1 	$\frac{1}{6}$ Sixth one part from 6 equal parts 
$\frac{1}{2}$ Half one part from 2 equal parts  	$\frac{1}{7}$ Seventh one part from 7 equal parts  
$\frac{1}{3}$ Third one part from 3 equal parts  	$\frac{1}{8}$ Eighth one part from 8 equal parts 
$\frac{1}{4}$ Fourth one part from 4 equal parts  	$\frac{1}{9}$ Ninth one part from 9 equal parts 
$\frac{1}{5}$ Fifth one part from 5 equal parts  	$\frac{1}{10}$ Tenth one part from 10 equal par 



Activity 2 Divide the whole one into 3 equal parts or 4 equal parts :



$\frac{1}{3}$ 3 parts

$\frac{1}{4}$ 4 parts



Notice

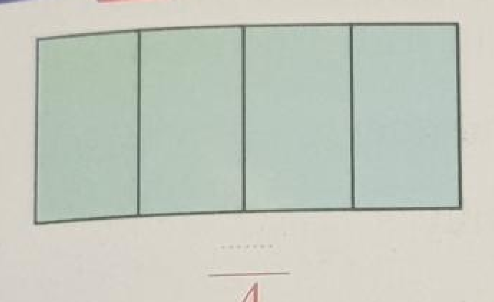
The third $\frac{1}{3}$ is longer than the fourth $\frac{1}{4}$

$\frac{1}{3}$

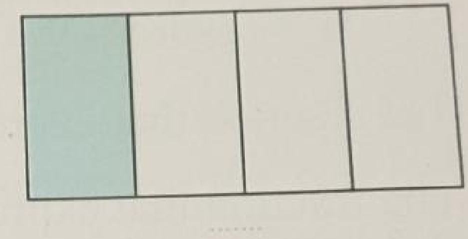
$\frac{1}{4}$

So $\frac{1}{3} > \frac{1}{4}$

Practice 1 Write the fraction that represent the colour part:



$\frac{\dots}{4}$



$\frac{\dots}{4}$

Activity 3 From the previous exercise :

Notice

Whole one is $\frac{4}{4}$ and equal to the sum of 4 fourths

Then : $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{4}{4} = 1$

Also Whole one equal $\frac{3}{3}$ and equal to the sum of 3 t

Then : $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = \frac{3}{3} = 1$



Practice 2 Label the unit fraction and it's numbers :

$\frac{1}{3}$ $\frac{1}{3}$ $\frac{1}{3}$

Number of fraction 3

$\frac{}{}$ $\frac{1}{2}$

Math Journal

Number of fraction ......

Number of fraction ......

Number of fraction ......

Practice 3 your family has 4 members .
Represent each member as a unit fraction and express the whole family as a fraction :

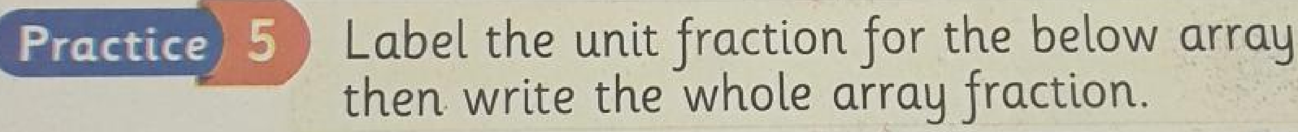
a) The fraction that expresses each member = $\frac{\dots}{\dots}$

b) The fraction that expresses the family = $\frac{\dots}{4}$

Practice 4 Wagdy has one whole carton of 12 eggs.
What fraction is each egg in the carton ?
Express the whole egg carton as a fraction:

a) The fraction that expresses the egg = $\frac{\dots}{\dots}$

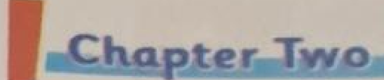
b) The fraction that expresses the carton = $\frac{\dots}{\dots}$



Practice 5 Label the unit fraction for the below array then write the whole array fraction.

a) The fraction that expresses the element = $\frac{\dots}{\dots}$

b) The fraction that expresses a whole array = $\frac{\dots}{\dots}$



Activity 4 Divide the following shape into 3 equal parts then write :

a) Number of parts 3

b) Each part represent $\frac{1}{3}$



Practice 6 Divide the following shape into 2 equal parts then write :

a) Number of parts 2

b) Each part represent $\frac{\dots}{2}$



Practice 7 Divide the following shape into 4 equal parts then write :

a) Number of parts ......

b) Each part represent $\frac{\dots}{\dots}$

Practice 8 Complete as the Ex :

Ex $1 = \frac{\dots}{7}$ **Solution** $1 = \frac{7}{7}$

a) $1 = \frac{\dots}{6}$ **Also** $1 = \frac{8}{\dots}$

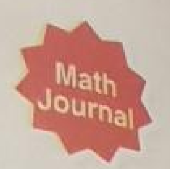
b) $1 = \frac{\dots}{9}$ **Also** $1 = \frac{3}{\dots}$

c) $1 = \frac{\dots}{2}$ **Also** $1 = \frac{\dots}{4}$

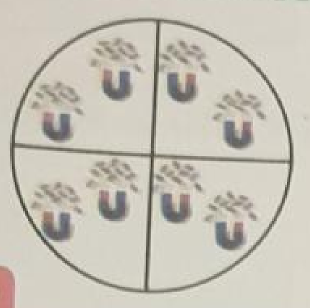
d) $1 = \frac{\dots}{1}$ **Also** $1 = \frac{5}{\dots}$

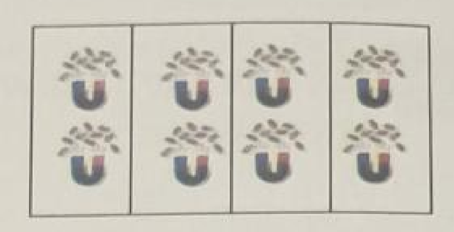


Activity 5 Divide 8 counters into fourths



- Use circle or bar.
- Divide 8 counters into 4 parts.





Notice

If I divide 8 counters into fourths each ,
each fourth has 2 counters

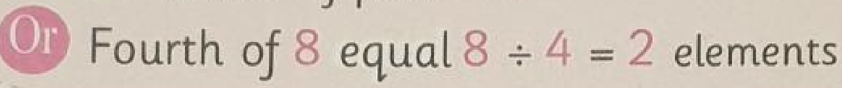
Summary

To get number of element in each part

Divide 8 by 4 then each part has 2 element

So number of parts = 2

Or Fourth of 8 equal $8 \div 4 = 2$ elements



Activity 6 What is half of 16 ?

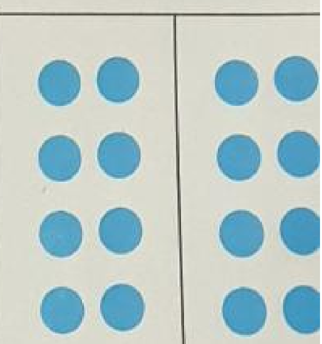


First way

Divide the rectangle into 2 parts

Divide 16 elements on the two parts

Number of elements in each part = ...



Then half of 16 equal 8



Half of 16 equal 16 ÷ 2 = 8

Practice 9 Divide 24 counters into eighths. How many counters would be in each fractional unit ?



Divide the rectangle into .... parts

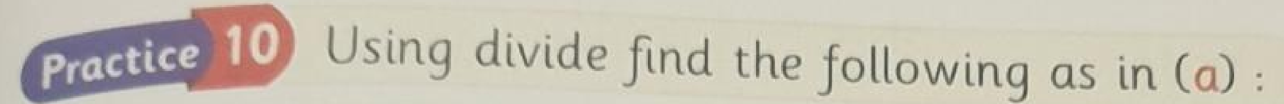
Distribute ...... element in each part

Number of element in each part ....

Then eighth of 24 equal ....



$24 \div$ .... = ...



Using divide find the following as in (a) :

a) What is $\frac{1}{2}$ of 8 ? Solution : $8 \div$ ..2.. = ..4..

b) What is $\frac{1}{4}$ of 12 ? Solution : $12 \div$ .... = ...

c) What is $\frac{1}{2}$ of 10 ? Solution : $10 \div$ .... = ...

d) What is $\frac{1}{3}$ of 6 ? Solution : $6 \div$ .... = ...

e) What is $\frac{1}{5}$ of 20 ? Solution : $20 \div$ .... = ...

f) What is $\frac{1}{7}$ of 14 ? Solution : $14 \div$ .... = ...

Self- check on lesson (77 , 78)

1 Complete as in (a) :

a) $1 = \frac{\dots}{2}$ Solution : $1 = \frac{2}{2}$

b) $1 = \frac{\dots}{10}$ also $1 = \frac{8}{\dots}$

c) $1 = \frac{\dots}{6}$ also $1 = \frac{\dots}{9}$

d) $1 = \frac{\dots}{12}$ also $1 = \frac{\dots}{5}$

e) $1 = \frac{\dots}{7}$ also $1 = \frac{11}{\dots}$

2 Complete :

a) What is $\frac{1}{2}$ of 4 ? Solution : $4 \div \dots = \dots$

b) What is $\frac{1}{4}$ of 16 ? Solution : $16 \div \dots = \dots$

c) What is $\frac{1}{3}$ of 33 ? Solution : $33 \div \dots = \dots$

3 From the array below write the fraction that expresses the element and the fraction that represent all array :

a) The fraction that expresses the element = $\frac{\dots}{\dots}$

b) The fraction that expresses all array = $\frac{\dots}{\dots}$

4 Divide the opposite rectangle into 7 equal parts , then complete :

Number of parts

The fraction represent each part ——

5 Divide the opposite rectangle into 5 equal parts , then complete :

Number of parts

The fraction represent each part ——

6 What is a third of 21 :

First way Divide the rectangle into .... parts.

Distribute 21 on the parts equally.

Then the number of each part = ...

Second way .... ÷ .... = ...

7 What is the fourth of 20 :

First way Divide the rectangle into .... parts.

Distribute 20 on the parts equally.

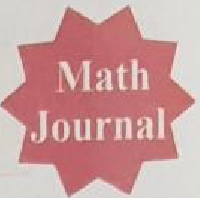
Then the number of each part = ...

Second way .... ÷ .... = ...

Lesson (79 , 80)

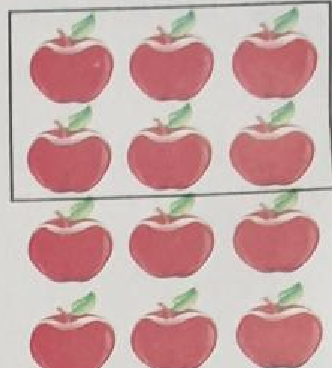
The fraction as a part of a group





Activity 1 Mohamed has 12 apples to distribute them equally to his friends , Complete :

1 If he splits the apples equally between 2 friends :



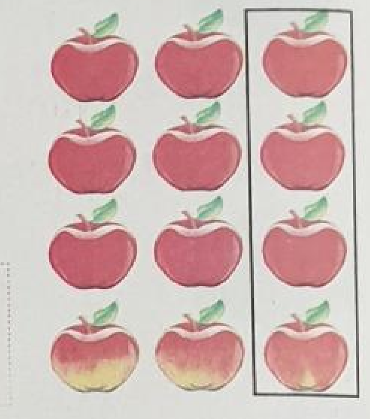
Solution Divide the apples on the friends

$12 \div 2 = 6$ Apples

So Number of apples for each one = 6

The fraction that expresses the share of each one = $\frac{6}{12}$

2 If he distribute the apples equally between 3 friends :



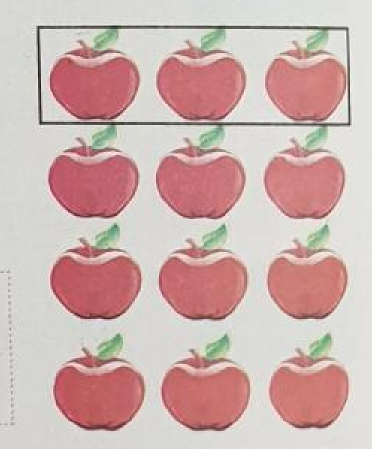
Solution Divide the apples on the friends

...... ÷ ...... = ... Apples

So Number of apples for each one = ...

The fraction that expresses the share of each one = $\frac{......}{......}$

3 If he distribute the apples equally between 4 friends :



Solution Divide the apples on the friends

...... ÷ ...... = ...apples

So Number of apples for each one = ...

The fraction that expresses the share of each one = $\frac{......}{......}$

Practice 1 Divide 6 pack of soda equally on 6 guests.
How many cans of soda will each guest receives write as a division problem and as a faction.



Solution Divide ...... on ......

...... ÷ ...... = ...pack





So Number of pack for each one = ...

The fraction of share = $\frac{......}{......}$

Practice 2 A father divide 24 pounds on his 3 sons.
What is the number of pounds for each son.
What is the fraction for the part ?

Solution Divide ...... on ......

...... ÷ ...... = ...pounds



So Number of pound for each one = ...

The fraction that represent the share of each one = $\frac{......}{......}$

Practice 3 A teacher split 15 notebook on 5 children .
How many notes for each one ? Write the fraction that represent the share of each one.

Solution Divide ...... on ......

...... ÷ ...... = ... notes



So Number of notes for each child = ...

The fraction = $\frac{......}{......}$

Practice 4 Heba and Amira walk to school together. It takes Heba $\frac{1}{2}$ an hour to walk to Amira's house. It takes Heba and Amira $\frac{1}{4}$ of an hour to walk to school together. How many minutes in all does Heba take to walk to the school?

Math Journal

Solution

$\frac{1}{4}$ hour = ... minutes $\frac{1}{2}$ hour = ... minutes

Time of Heba = $\frac{1}{2}$ hour + $\frac{1}{4}$ hour

= .... minutes + ... minutes = ... minutes

Practice 5 Circle the greater fraction :

a) $\frac{1}{3}$, $\frac{1}{4}$

b) $\frac{1}{5}$, $\frac{1}{8}$

c) $\frac{1}{2}$, $\frac{1}{4}$

d) $\frac{1}{7}$, $\frac{1}{9}$

e) $\frac{1}{6}$, $\frac{1}{8}$

f) $\frac{1}{6}$, $\frac{1}{5}$

g) $\frac{1}{4}$, $\frac{1}{6}$

h) $\frac{1}{9}$, $\frac{1}{10}$

Practice 6 Arrange from the small to the big :

$\frac{1}{2}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{3}$

Remember that
The fraction that has greater denominator is the smaller

Solution

The order : .... , ... , ... , ...

Practice 7 Complete as in (a) :

(a) 2 fourth form $\frac{1}{2}$

$\frac{1}{2}$		$\frac{1}{2}$	
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

Notice that

Divide each part into (2) parts

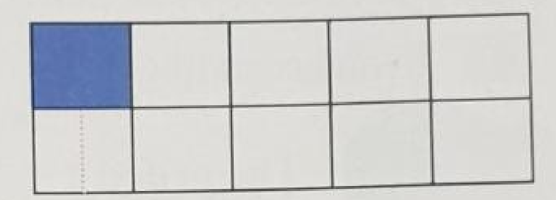
(b) .... Sixth form $\frac{1}{3}$

$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$	
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

(c) .... Eighths form $\frac{1}{4}$

$\frac{1}{4}$			

(d) .... Tenths form $\frac{1}{5}$



Practice 8 Using division to find as in (a) :

(a) How much is a fourth of 4 ? Solution : $4 \div 4 = 1$

(b) How much is eighth of 16 ? Solution : $16 \div$ .... $=$ ....

(c) How much is half of 20 ? Solution : $20 \div$ .... $=$ ....

(d) How much is third of 6 ? Solution : $6 \div$ .... $=$ ....

(e) How much is fifth of 15 ? Solution : $15 \div$ .... $=$ ....

Self - check on lesson (79 , 80)

1 Complete :

a) How much is fifth of 20 ? Solution : 20 ÷ ...... = ...

b) How much is fourth of 12 ? Solution : 12 ÷ ...... = ...

c) How much is third of 18 ? Solution : 18 ÷ ...... = ...

d) How much is half of 14 ? Solution : 14 ÷ ...... = ...

e) How much is ninth of 36 ? Solution : 36 ÷ ...... = ...

Remember that

The fraction that has greater denominator is the smaller

2 Arrange the following :

a) In an ascending order : $\frac{1}{6}$, $\frac{1}{10}$, $\frac{1}{2}$, $\frac{1}{5}$

Solution **The order :** .... , ... , ... , ...

b) In a descending order : $\frac{1}{3}$, $\frac{1}{12}$, $\frac{1}{7}$, $\frac{1}{9}$

Solution **The order :** .... , ... , ... , ...

3 A company distributed 30 uniforms (business suits) equally among ten employees. How many uniforms does each employee take ? What is the fraction that represents that ?

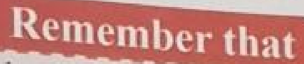
Solution Divide ...... on ......

So ...... ÷ ...... = ... Uniforms

Number of uniforms for each one = ...

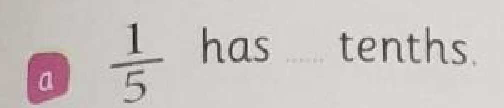
The fraction = $\frac{......}{......}$





We divide the number of all parts by the denominator

4 Complete :



a) $\frac{1}{5}$ has ...... tenths.

$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$	
$\frac{1}{10}$	$\frac{1}{10}$								

b) $\frac{1}{2}$ has ...... eighths

$\frac{1}{2}$				$\frac{1}{2}$			
						$\frac{1}{8}$	$\frac{1}{8}$

c) $\frac{1}{3}$ has ...... sixths

$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$	
$\frac{1}{6}$					

5 Complete as in (a) :

a) If $\frac{1}{2}$ a bag of biscuit equal 5 pieces

Then number of pieces = 2 × ....5.... = ..10... pieces.

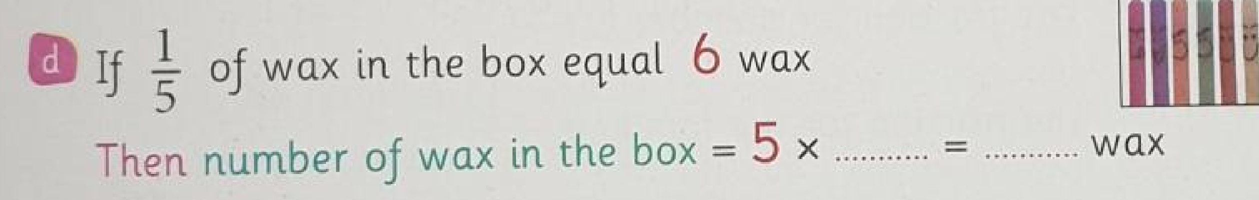


b) If $\frac{1}{4}$ a bag of balloons equal 4 balloons

Then number of all balloons = 4 × .... = ... balloons

c) If $\frac{1}{3}$ a box of mineral water equal 3 bottles

Then number of bottles in a box = 3 × .... = ... bottles



d) If $\frac{1}{5}$ of wax in the box equal 6 wax

Then number of wax in the box = 5 × .... = ... wax

e) If $\frac{1}{7}$ of kilogram of tomatoes = 3 pieces

Then A kilogram of tomatoes = 7 × .... = ... pieces

Self - check 1 Chapter 2

1 Complete using (> , = , <) :

(a) $\frac{1}{3}$ .... $\frac{1}{4}$

(b) $\frac{1}{8}$ .... $\frac{1}{7}$

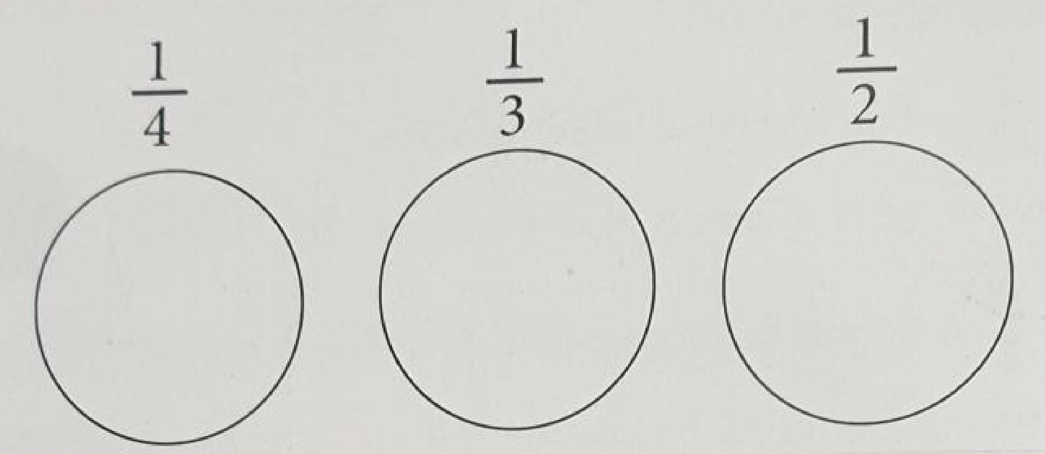
(c) $\frac{1}{5}$ .... $\frac{1}{5}$

(d) $\frac{1}{2}$ .... $\frac{1}{10}$

(e) Half of 6 .... Third of 9

(f) Fourth of 8 .... Fifth of 5

2 Divide then shade what expresses the fraction :



3 A family with 5 members expresses the member as a fraction and then the whole family expressed it as a fraction :

Solution - The fraction for member is $\frac{\dots}{\dots}$

- The fraction for the family is $\frac{\dots}{\dots}$

- If two of them go to school, then :

The fraction for the left members in the Family is $\frac{\dots}{\dots}$

4 Choose the correct answer :

a) Half the number (12) = ... ($\frac{1}{2}$, 14 , 6 , 10)

b) Fourth the number (40) = ... (40 , $\frac{1}{4}$, 10 , 4)

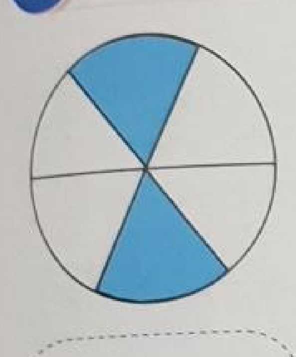
c) $1 = \frac{\dots}{5}$ (2 , 3 , 4 , 5)

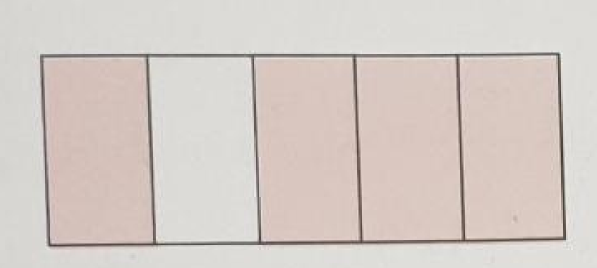
d) The numerator of $\frac{5}{6}$ is .... (5 , 6 , 7 , 8)

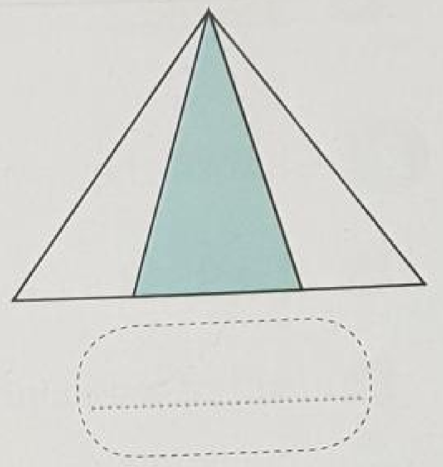
e) Whole one has .... Fifths . (2 , 1 , 3 , 5)

f) The number of fourth in ($\frac{1}{2}$) is .... (2 , 4 , 5 , 6)

5 Write the fraction that represent the coloured part :







....

6 Answer the following :

** If $\frac{1}{6}$ a box of pens equal 2 pens

Then the number of pens in the box = 6 × .... = ... pens

** If we divide this pens on 4 friends equally

Then the share of each one = ... ÷ 4 = ... pens .

Self - check 2 On (the previous chapters)

1 Complete :

a) $13 \times 5 = (10 + \ldots\ldots) \times 5$

$= (\ldots\ldots \times \ldots\ldots) + (\ldots\ldots \times 5)$

$= \ldots\ldots + \ldots\ldots = \ldots\ldots$

b) The number of hours in one day = ... hours .

c) Fourth of the number 20 = ...

d) The area of a rectangle whose dimensions 5 cm , 10 cm = ...

e) 3 thirds = ... , Five fifths = ...

2 Choose the correct answer :

a) $4 \times 9 \times 8 = (4 \times \ldots\ldots) \times 9$ (4 , 9 , 5 , 8)

b) Half of the number 10 equal .... ($\frac{1}{2}$, 10 , 5 , 1)

c) $(9 + 3) \div \ldots\ldots = 3$ (3 , 4 , 9 , 8)

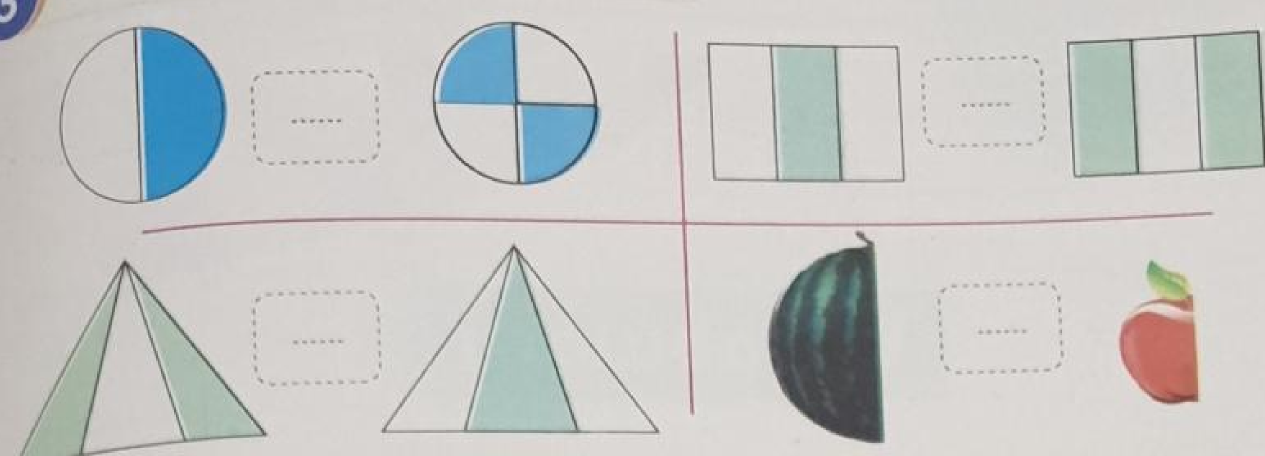
d) The perimeter of a square whose side 8 cm equal .... cm

(64 , 32 , 8 , 4)

e) 2 hours = ... minutes . (30 , 60 , 120 , 150)

f) $3 \times 27 = 3 \times (\ldots\ldots + 7)$ (10 , 20 , 30 , 40)

3 Compare using (< , > , =) :



4 If the area of rectangle is 20 cm² and it's length 5 cm calculate it's width .

Solution The width = The area ÷ The length

= .... ÷ .... = ... cm

5 cm

20 cm²

......?

5 Answer the following :

a Arrange in a descending order : $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{4}$

Solution **The order :** .... , ... , ... , ... , ...

b Complete the pattern : $\frac{1}{5}$, $\frac{1}{6}$, $\frac{1}{7}$, $\frac{1}{....}$, $\frac{1}{....}$, $\frac{1}{....}$

6 Answer the following :

** If $\frac{1}{5}$ of the number of bisects 4 pieces .

Then the number of all pieces = ... pieces .

** And if we divide this pieces on 2 friends equally .

Then the share of each one = 20 ÷ .... = ... pieces .





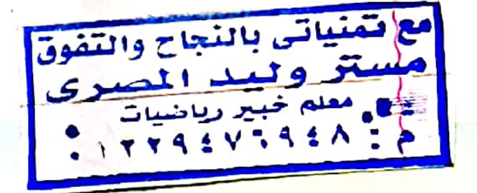
Vocabulary

Eighths	أثمان
Equal parts	أجزاء متساوية
Fourths	أرباع
Fraction	كسر
Fractional part	أجزاء كسرية
Halves	أنصاف
Number line	خط الأعداد
Sixths	أسداس
Thirds	أثلاث
Denominator	المقام
Unit fraction	وحد ة الكسر
Whole 1	واحد صحيح

Greater than	أكبر من
Less than	أقل من
Key	مفتاح
Line plot	خط النقاط
Proper fraction	الكسر الحقيقي
Hypothesis	اقتراح
Common	مشترك (متشابه)
Add	اجمع
Sum	مجموع
Difference	فرق
Subtract	اطرح
Compare	قارن

Content

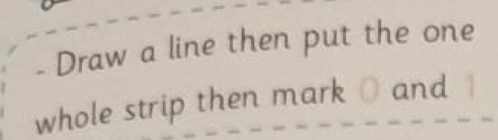
- Bakkar Self-Check
- Bakkar Exercise on lessons
- Exercise insipred from Math Journal
- Exercise inspired from Discover

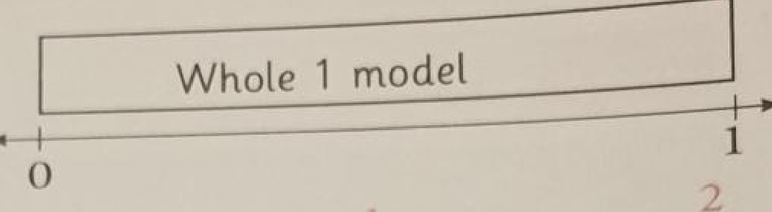


Lesson (81 , 82 , 83)

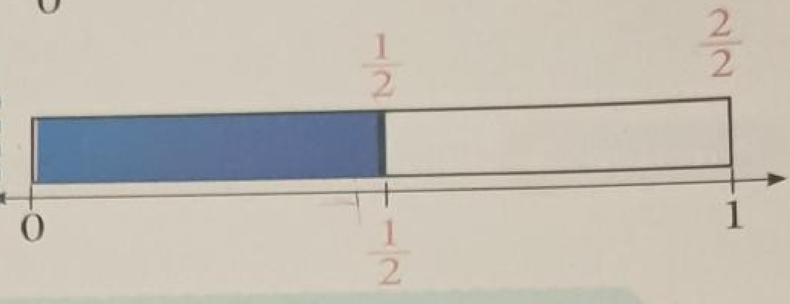
Fraction on the number line

Activity 1 Representing the fraction on the number line :



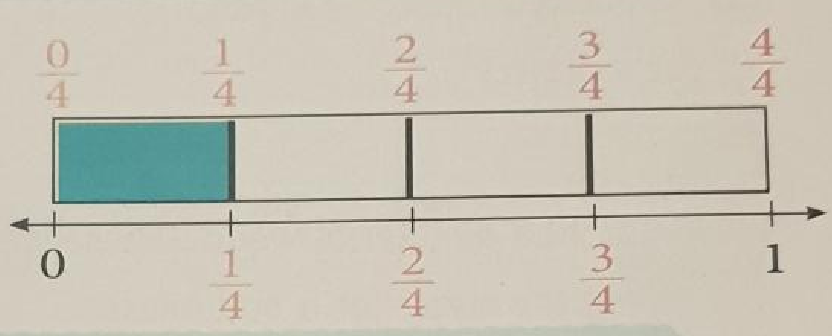


- Draw a line under the $\frac{1}{2}$ fraction model then mark 0 and 1



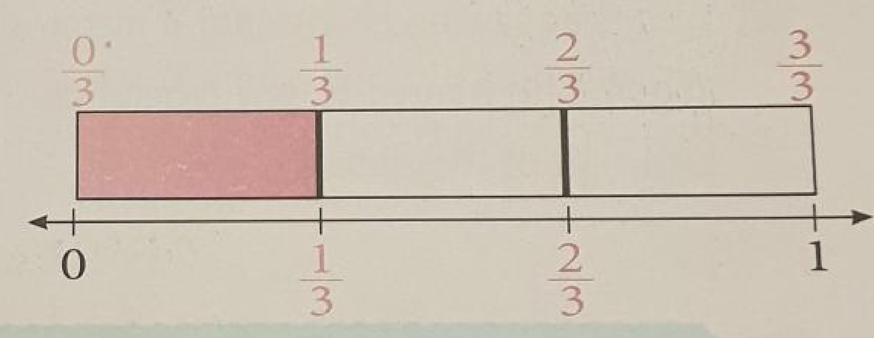
Notice : $\frac{2}{2}$ **is the same as whole 1 then** $1 = \frac{2}{2}$

- Draw a line under the $\frac{1}{4}$ fraction model then mark .



Notice : $\frac{4}{4}$ **is the same as whole 1 then** $1 = \frac{4}{4}$

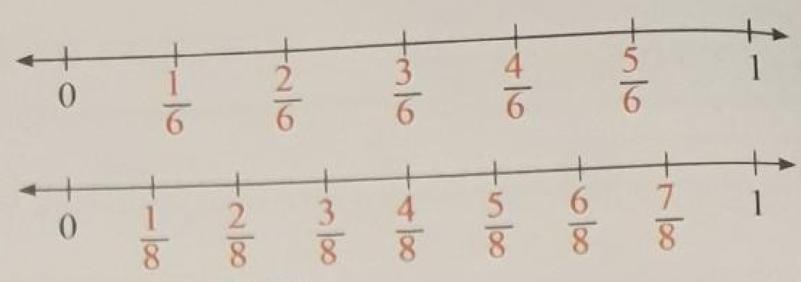
- Draw a line under the $\frac{1}{3}$ fraction model then mark .



Notice : $\frac{3}{3}$ **is the same as whole 1 then** $1 = \frac{3}{3}$

From the above we find that $1 = \frac{2}{2} = \frac{3}{3} = \frac{4}{4}$

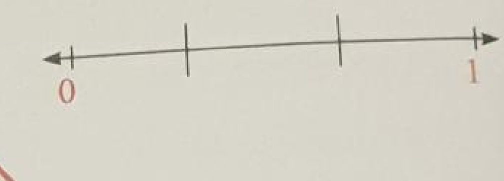
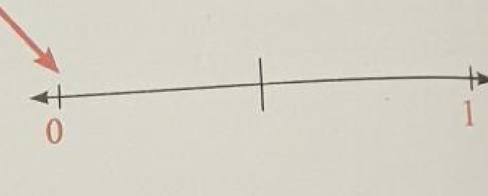
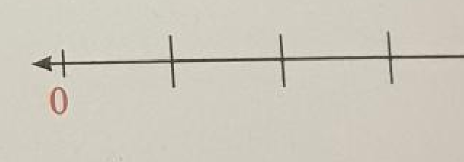
- Repeat the next with $\frac{1}{6}$ model and $\frac{1}{8}$ model we get the opposite line .



Notice $1 = \frac{2}{2} = \frac{3}{3} = \frac{4}{4} = \frac{6}{6} = \frac{8}{8}$

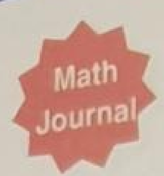
Also : $\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$ Also $\frac{1}{3} = \frac{2}{6}$ also $\frac{1}{4} = \frac{2}{8}$

Practice 1 Draw a line matching each story to it's number line:

Story problems	Number line model
a Aya had a rope. She needed $\frac{1}{2}$ of it for a project .	
b Omar had a meter of wood . He needed $\frac{1}{3}$ of the meter for a bird house.	
c Sara was sewing beads onto a meter of ribbon .She wanted to sew a bead on each $\frac{1}{4}$ of the ribbon .	
d At the park, there was a straight 1- kilometre path. Every $\frac{1}{6}$ of the path , there was a drinking fountain.	



Practice 2



Ali needs to wrap presents . He lays the ribbon flat and says :" If I make 3 equally pieces . I will have just enough pieces . I can use 1 piece for each present."
Draw a number line to show Ali's ribbon and the parts he will make :





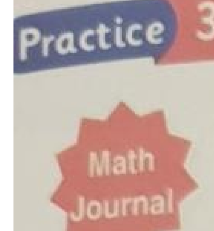
0 ———————— 1

1 = ...
    ....

a How many presents can Ali wrap ? ....

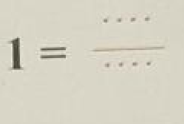
b What fraction of the whole ribbon is used for each present ? ....

Practice 3



Mariam is planting flowers in her 1 meter long rectangular plant box .She divides the plant box into sections $\frac{1}{8}$ of a meter in length. Then she plants 1 seed in each section. Draw and label a number line representing the plant box from 0 meters to 1 meter.







0 ———————— 1

1 = ...
    ....



** How many seeds can Mariam plant ? ....

Practice 4

Ziad wanted to cut a 1 meter piece of rope into equal pieces for his 4 friends .Draw a number line to show how he could cut the rope .



0 ———————— 1

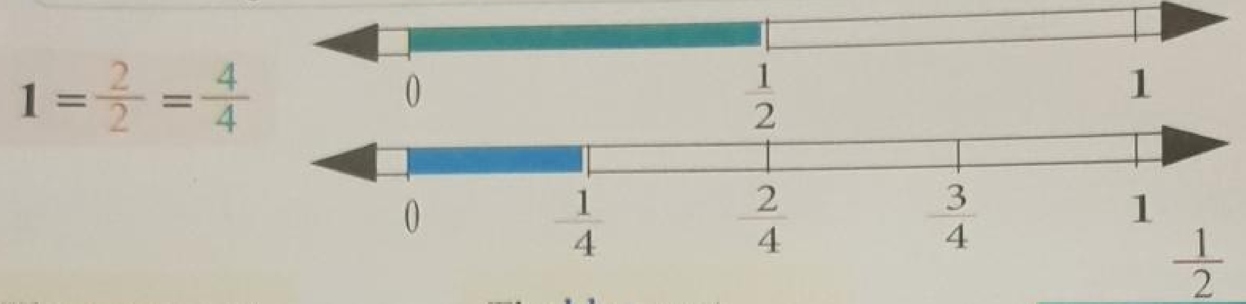
1 = ...
    ....

** Which fraction of the rope each friend will get ? ....

Activity 2 Compare between $\frac{1}{2}$ and $\frac{1}{4}$ on the number line :

- Draw 2 number lines divide each line as a fraction and colour it with different colour .
- Compare the parts of each fraction .
- The longer is the greater fraction .

$1 = \frac{2}{2} = \frac{4}{4}$



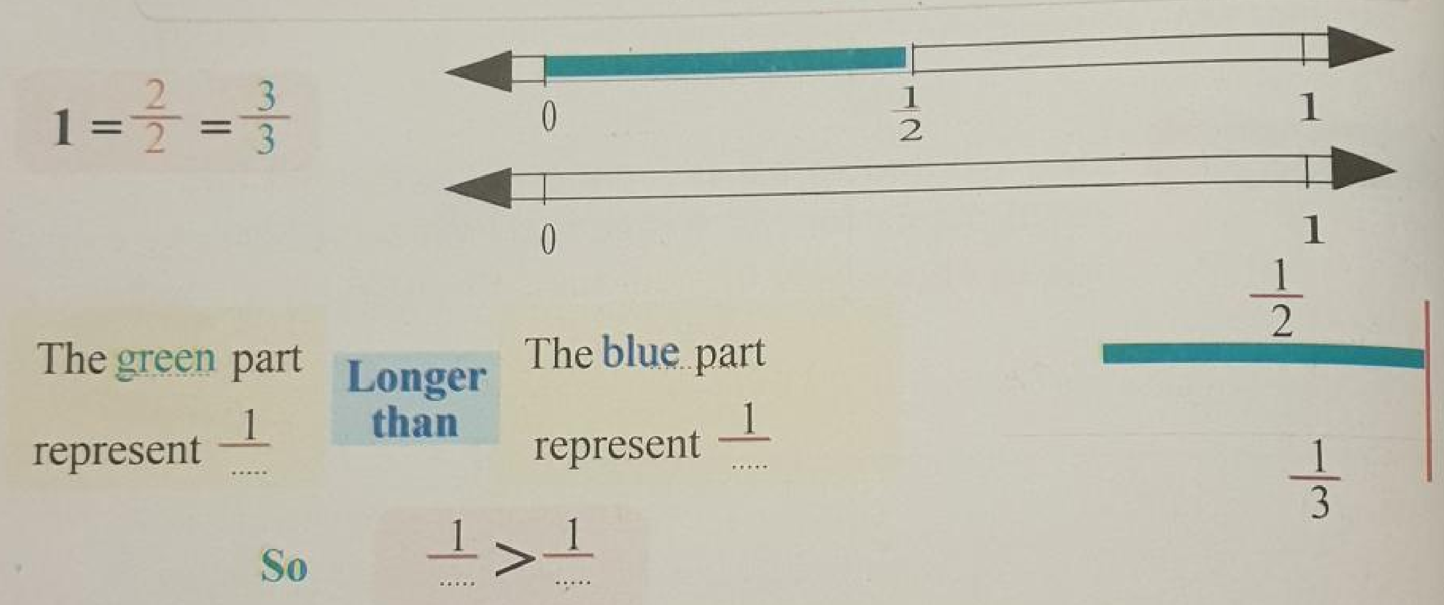
The green part represent $\frac{1}{2}$	Longer than	The blue part represent $\frac{1}{4}$

So $\frac{1}{2} > \frac{1}{4}$

Practice 5 Compare between $\frac{1}{2}$ and $\frac{1}{3}$ on the number line:

-Divide the number line as the fraction $\frac{1}{3}$ and Colour with blue .

$1 = \frac{2}{2} = \frac{3}{3}$



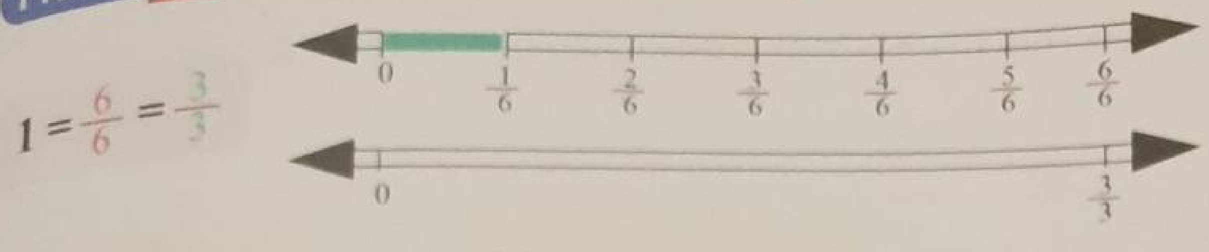
The green part represent $\frac{1}{....}$	Longer than	The blue part represent $\frac{1}{....}$

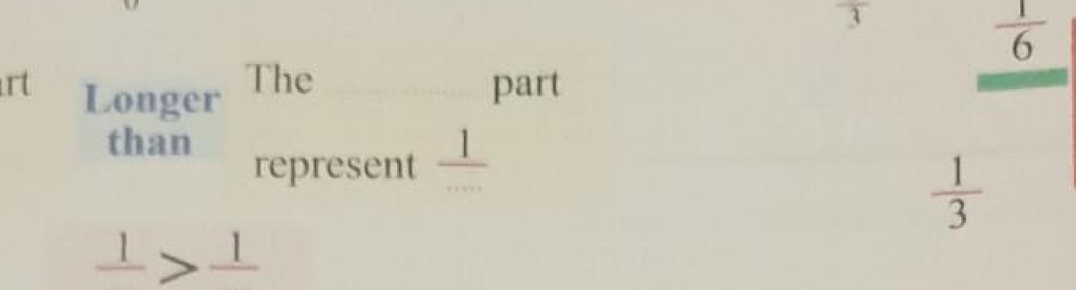
So $\frac{1}{....} > \frac{1}{....}$

Notice The larger denominator means less fraction

Practice 6 Compare between $\frac{1}{6}$ and $\frac{1}{3}$ on the number line :

$1 = \frac{6}{6} = \frac{3}{3}$



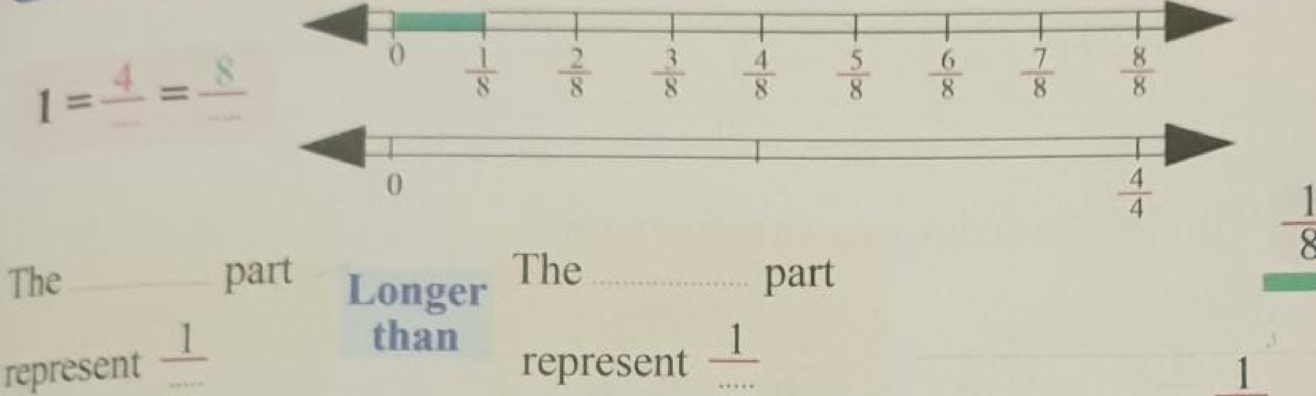


The .... part represent $\frac{1}{....}$ **Longer than** The .... part represent $\frac{1}{....}$

So $\frac{1}{....} > \frac{1}{....}$

Practice 7 Compare between $\frac{1}{4}$ and $\frac{1}{8}$ on the number line:

$1 = \frac{4}{....} = \frac{8}{....}$

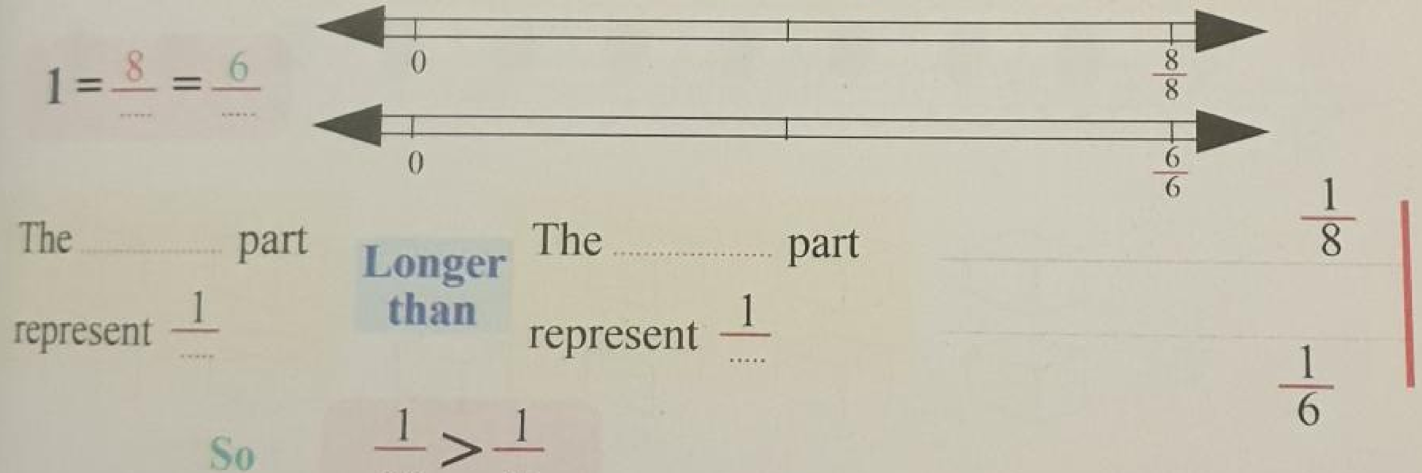


The .... part represent $\frac{1}{....}$ **Longer than** The .... part represent $\frac{1}{....}$

So $\frac{1}{....} > \frac{1}{....}$

Practice 8 Compare between $\frac{1}{8}$ and $\frac{1}{6}$ on the number line:

$1 = \frac{8}{....} = \frac{6}{....}$

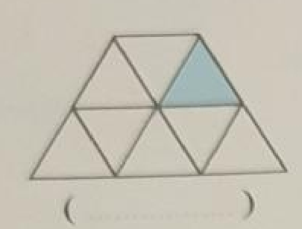


The .... part represent $\frac{1}{....}$ **Longer than** The .... part represent $\frac{1}{....}$

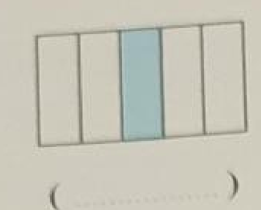
So $\frac{1}{....} > \frac{1}{....}$

Self - check on lesson (81, 82, 83)

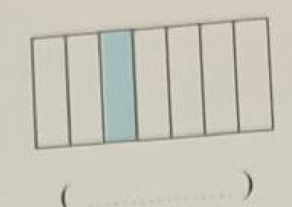
1 Write the fraction according to the coloured part:



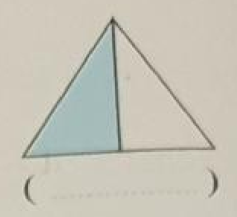
(..................)



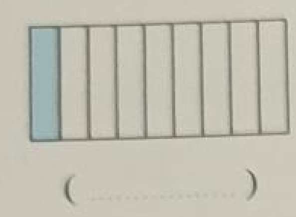
(..................)



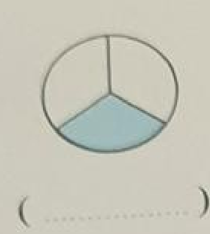
(..................)



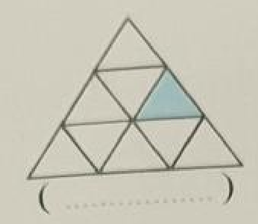
(..................)



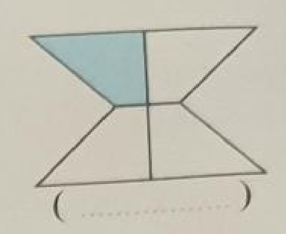
(..................)



(..................)



(..................)



(..................)

2 Circle according to the fraction:

a $\frac{1}{6}$

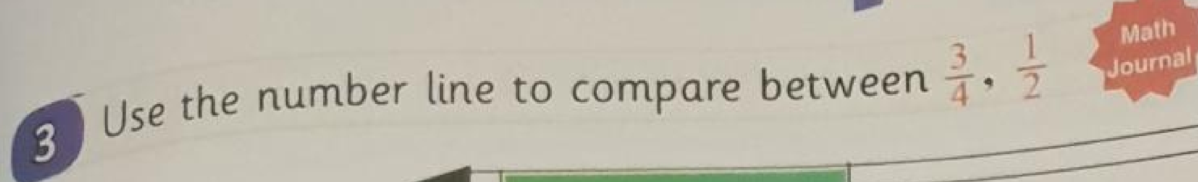




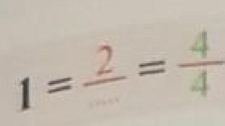


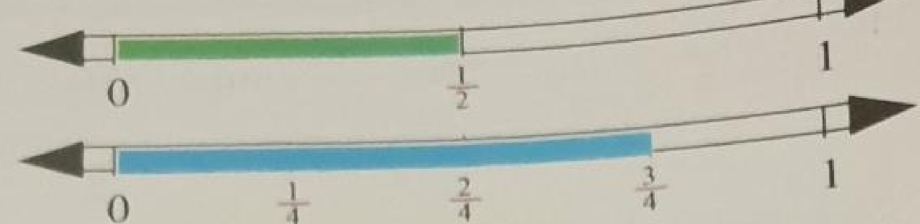

b $\frac{1}{5}$

c $\frac{1}{3}$



3 Use the number line to compare between $\frac{3}{4}$, $\frac{1}{2}$ — Math Journal





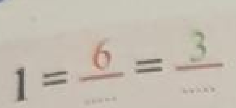
The length of the blue represent $\frac{.....}{.....}$ **Longer than** The length of the green represent $\frac{.....}{.....}$

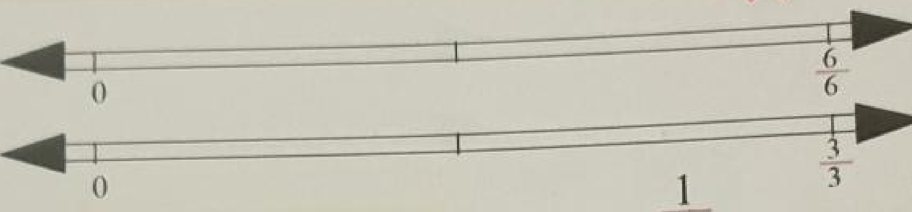
$\frac{1}{2}$

$\frac{3}{4}$

Then $\frac{.....}{.....} > \frac{.....}{.....}$

4 Use the number line to compare between $\frac{1}{6}$, $\frac{1}{3}$ — Math Journal





The length of .... represent $\frac{.....}{.....}$ **Longer than** The length of .... represent $\frac{.....}{.....}$

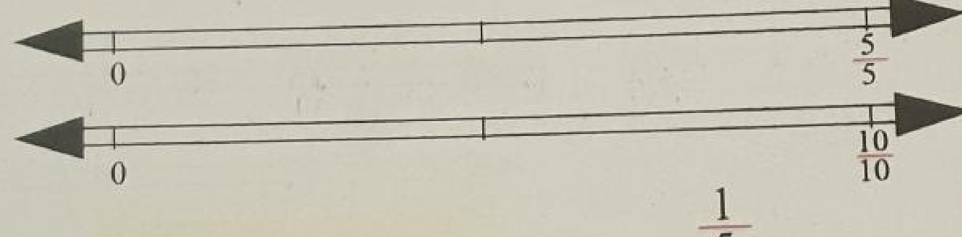
$\frac{1}{6}$

$\frac{1}{3}$

Then $\frac{.....}{.....} > \frac{.....}{.....}$

5 Use the number line to compare between $\frac{1}{5}$, $\frac{1}{10}$ — Math Journal

$1 = \frac{5}{.....} = \frac{10}{.....}$



The length of .... Represent $\frac{.....}{.....}$ **Longer than** The length of .... Represent $\frac{.....}{.....}$

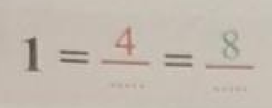
$\frac{1}{5}$

$\frac{1}{10}$

Then $\frac{.....}{.....} > \frac{.....}{.....}$



6 Use the number line to compare between $\frac{1}{4}, \frac{1}{8}$





The length of .... represent ...../..... **Less than** The length of .... represent ...../.....

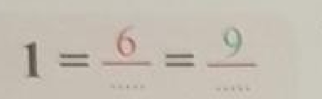
$\frac{1}{4}$

$\frac{1}{8}$

Then ...../..... < ...../.....



7 Use the number line to compare between $\frac{1}{6}, \frac{1}{9}$





The length of .... represent ...../..... **Less than** The length of .... represent ...../.....

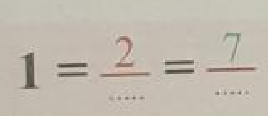
$\frac{1}{6}$

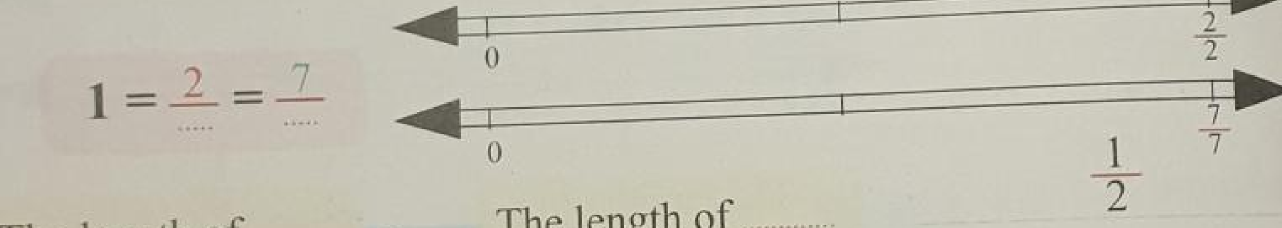
$\frac{1}{9}$

Then ...../..... < ...../.....



8 Use the number line to compare between $\frac{1}{2}, \frac{1}{7}$





The length of .... represent ...../..... **Less than** The length of .... represent ...../.....

$\frac{1}{2}$

$\frac{1}{7}$

Then ...../..... < ...../.....

Comparing common fraction

Activity 1 The proper fraction :
It's numerator less than it's denominator :

The fraction $\frac{3}{4}$

3 → Numerator (The number of parts we have)

4 → Denominator (The number of parts in one)

The fraction read as : Three fourths

Activity 2 Write the fraction that express the number of ants:

Numerator (number of ants) →

Denominator (All number) →



$\frac{3}{4}$



Practice 1 Write the fraction that express the number of girls:



$\frac{\dots\dots}{3}$



Practice 2 Write the fraction that express the number of yellow apples:

$\frac{\dots\dots}{8}$



Practice 3 Complete as in (a) :

a. The fraction $\frac{3}{5}$,It's numerator ...3..., It's denominator 5.....

b. The fraction $\frac{1}{7}$,It's numerator ...., It's denominator ....

c. The fraction $\frac{4}{9}$,It's numerator ...., It's denominator ....

Practice 4 Complete as in (a) :

a. Three different fractions with a denominator of 6 each : $\frac{1}{6}$, $\frac{2}{6}$, $\frac{5}{6}$

b. Three different fractions with a denominator of 10 each: ...... , ... , ...

c. Three different fractions with a denominator of 7 each: ...... , ... , ...

Practice 5 Write the fractions as in (a) :

a. Five eighths = $\frac{5}{8}$

b. Three sevenths = $\frac{\dots}{\dots}$

c. Fourth = $\frac{\dots}{\dots}$

d. Two fifths = $\frac{\dots}{\dots}$

e. Two sixths = $\frac{\dots}{\dots}$

f. Three fourths = $\frac{\dots}{\dots}$

g. Five tenths = $\frac{\dots}{\dots}$

h. Nine ninths = $\frac{\dots}{\dots}$

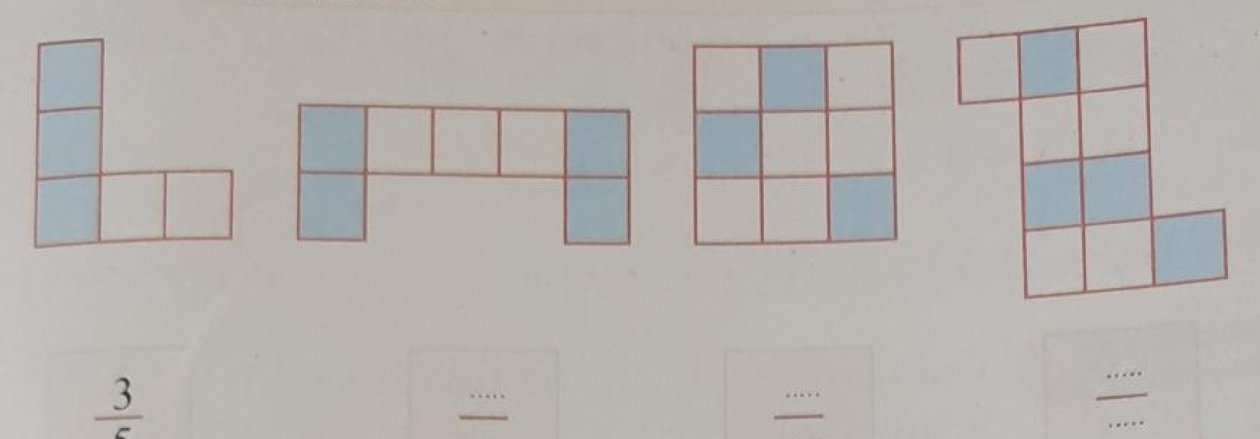
i. Three sixths = $\frac{\dots}{\dots}$

j. Two halves = $\frac{\dots}{\dots}$

k. Five sevenths = $\frac{\dots}{\dots}$

l. Seven eighths = $\frac{\dots}{\dots}$

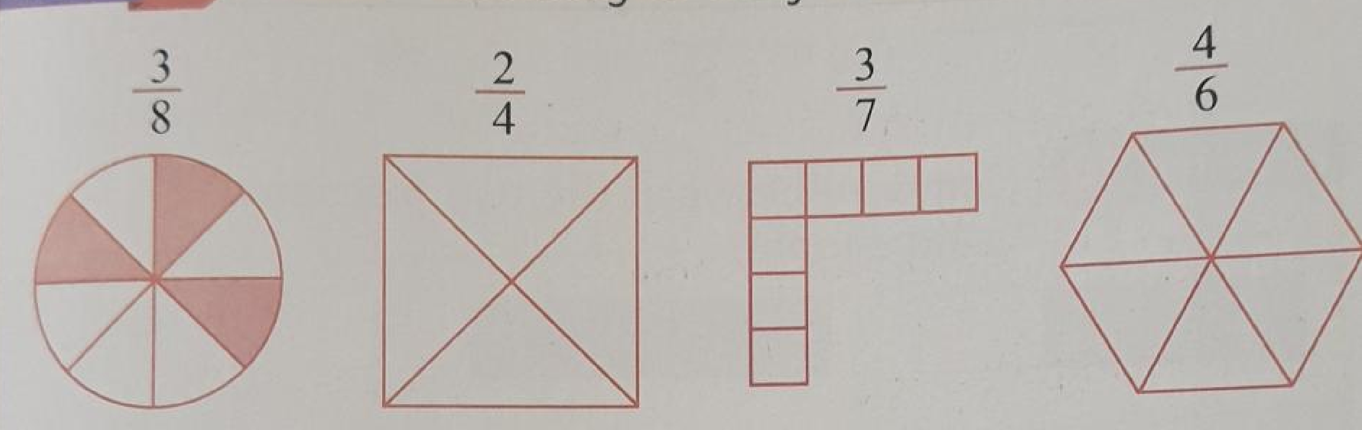
Practice 6 Write the fraction according to the coloured parts as the Ex:



$\frac{3}{5}$ $\qquad \frac{\dots}{\dots}$ $\qquad \frac{\dots}{\dots}$ $\qquad \frac{\dots}{\dots}$

Practice 7 Colour according to the fraction as the Ex :

$\frac{3}{8}$ $\qquad \frac{2}{4}$ $\qquad \frac{3}{7}$ $\qquad \frac{4}{6}$



Practice 8 Write the fractions in words as in (a) :

a) $\frac{3}{7}$ = Three sevenths .

b) $\frac{1}{4}$ = ...

c) $\frac{5}{5}$ = ...

d) $\frac{4}{9}$ = ...

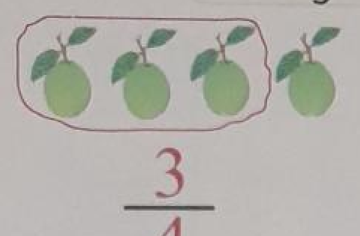
e) $\frac{1}{6}$ = ...

f) $\frac{7}{8}$ = ...

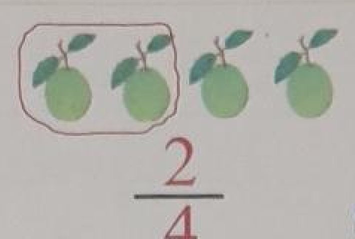
g) $\frac{5}{7}$ = ...

h) $\frac{2}{3}$ = ...

Activity 3 Compare between the two fractions $\frac{3}{4}$, $\frac{2}{4}$ using shapes:



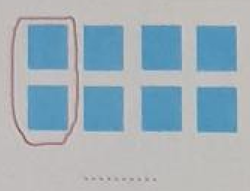
$\frac{3}{4}$



$\frac{2}{4}$

So $\frac{3}{4} > \frac{2}{4}$

Practice 9 Compare between the two fractions $\frac{2}{8}$, $\frac{4}{8}$ using shapes:



$\frac{\dots\dots}{8}$



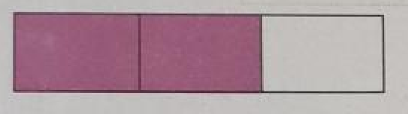
$\frac{\dots\dots}{8}$

So



$\frac{\dots}{\dots} > \frac{\dots}{\dots}$

Practice 10 Compare between the two fractions $\frac{2}{3}$, $\frac{3}{3}$ using shapes:



$\frac{\dots\dots}{3}$

$\frac{\dots\dots}{3}$

So



$\frac{\dots}{\dots} > \frac{\dots}{\dots}$

Notice

When comparing two fractions with equal denominators , we look at the numerator of each fraction:
So the fraction that has the largest numerator is the largest fraction . As : $\frac{4}{6} > \frac{1}{6}$, $\frac{5}{9} < \frac{7}{9}$, $\frac{3}{4} > \frac{1}{4}$.

Practice 11 Notice compare using (< , >) :

$\frac{7}{9}$ .... $\frac{6}{9}$, $\frac{5}{8}$ .... $\frac{3}{8}$, $\frac{2}{4}$ .... $\frac{3}{4}$, $\frac{1}{2}$ .... $\frac{2}{2}$

Activities from Math Journal

Activity • Write the fraction according to the number of equal parts as the Ex :

Fourths: 0, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$, $\frac{4}{4}$

Thirds: 0, $\frac{\cdots}{3}$, $\frac{\cdots}{3}$, $\frac{\cdots}{\cdots}$

Eighths: 0, $\frac{1}{8}$, $\frac{\cdots}{8}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{8}{8}$

Halves: 0, $\frac{\cdots}{2}$, $\frac{\cdots}{\cdots}$

Sixths: 0, $\frac{\cdots}{6}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{4}{6}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$

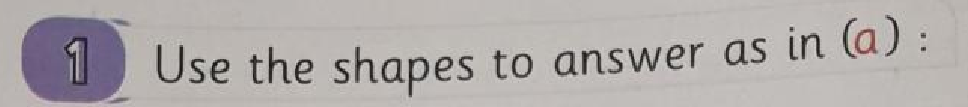
Fifths: 0, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{5}$, $\frac{3}{5}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$

Sevenths: 0, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{7}{7}$

Ninths: 0, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$, $\frac{\cdots}{\cdots}$

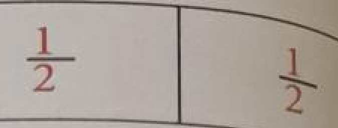
Note : **Counting ascendingly on the number line**

Self- check on lesson (84 , 85 , 86)

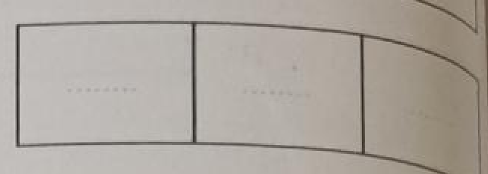


1 Use the shapes to answer as in (a) :

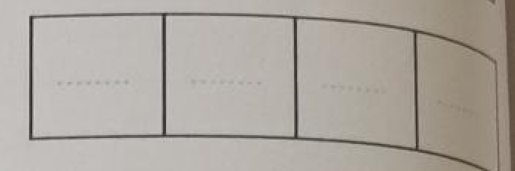
a) How many halves are in one ? 2



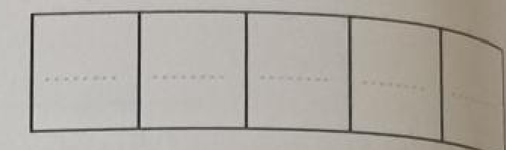
b) How many thirds are in one ? ......



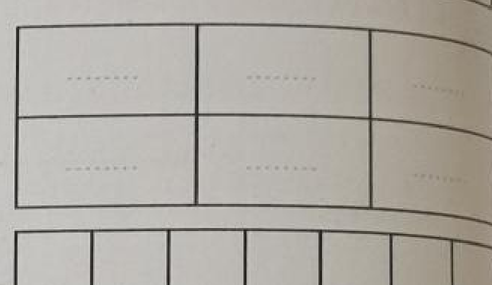
c) How many fourths are in one ? ......



d) How many fifths are in one ? ......



e) How many sixths are in one ? ......



f) How many sevenths are in one ? ......

2 Circle the smaller fraction :

a) $\frac{1}{3}$, $\frac{2}{3}$

b) $\frac{4}{5}$, 1

c) $\frac{9}{34}$, $\frac{3}{34}$

d) $\frac{5}{16}$, $\frac{11}{16}$

e) $\frac{7}{9}$, $\frac{8}{9}$

f) $\frac{2}{4}$, $\frac{1}{4}$

g) $\frac{1}{2}$, $\frac{2}{2}$

h) $\frac{9}{10}$, $\frac{5}{10}$

i) 1 , $\frac{3}{7}$

3 Write the fraction that represents the firefighter :

$\frac{\cdots}{\cdots}$



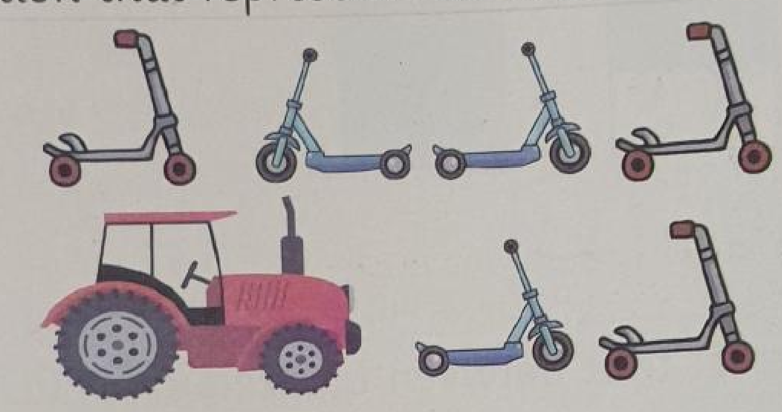
4 Write the fraction that represents the bags :

$\frac{\cdots}{6}$



5 Write the fraction that represents the tractors :

$\frac{\cdots}{7}$

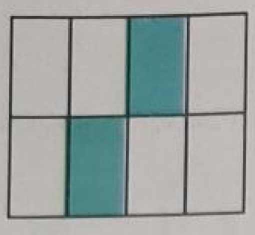


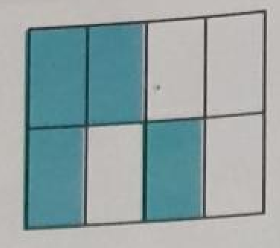
6 Complete as the example :

a Four fifths = $\frac{4}{5}$	b Three sevenths = $\frac{\cdots}{\cdots}$	c Four fourths = $\frac{\cdots}{\cdots}$
d Seven eighths = $\frac{\cdots}{\cdots}$	e Five tenths = $\frac{\cdots}{\cdots}$	f Four sixths = $\frac{\cdots}{\cdots}$
g Two halves = $\frac{\cdots}{\cdots}$	h Four eighths = $\frac{\cdots}{\cdots}$	i Three fifths = $\frac{\cdots}{\cdots}$
j Six sixths = $\frac{\cdots}{\cdots}$	k Half = $\frac{\cdots}{\cdots}$	l Six ninths = $\frac{\cdots}{\cdots}$

7 Notice write thWe fraction then compare as in (a) :

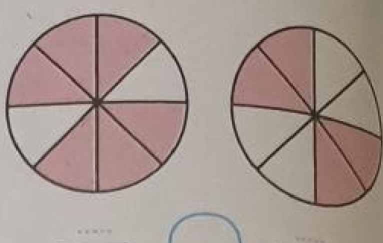
a





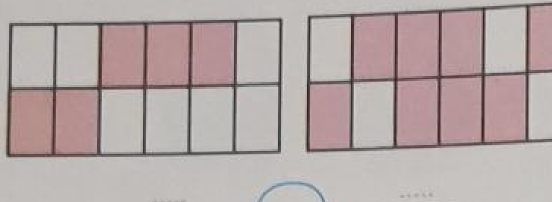
$\frac{2}{8}$ (<) $\frac{4}{8}$





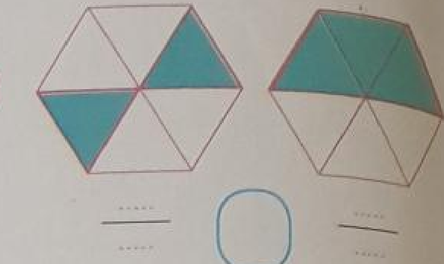
$\frac{\dots}{\dots}$ ( ) $\frac{\dots}{\dots}$





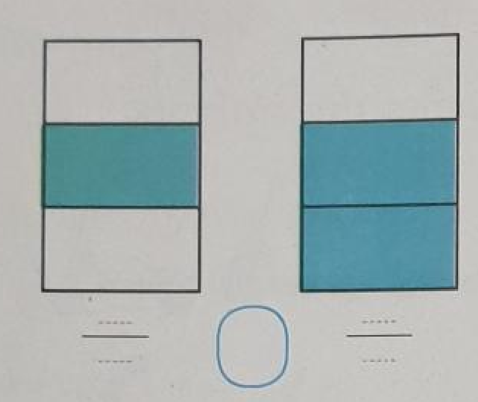
$\frac{\dots}{\dots}$ ( ) $\frac{\dots}{\dots}$





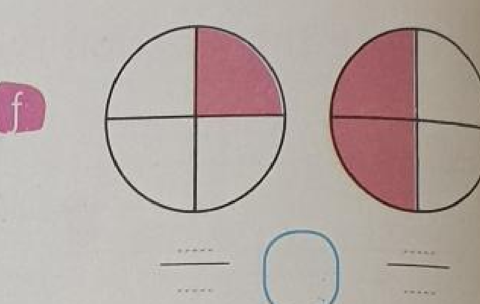
$\frac{\dots}{\dots}$ ( ) $\frac{\dots}{\dots}$

e



$\frac{\dots}{\dots}$ ( ) $\frac{\dots}{\dots}$

f



$\frac{\dots}{\dots}$ ( ) $\frac{\dots}{\dots}$

8 Correct that between brackets as in (a) :

a. The fraction $\frac{5}{7}$ it's denominator is (5) (...7...)

b. Seven eighths is ($\frac{7}{9}$). (..........)

c. Whole one = ($\frac{4}{9}$). (..........)

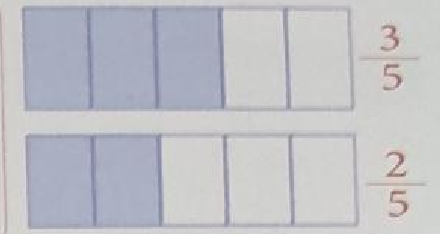
d. Five sixths = ($\frac{6}{5}$). (..........)

Adding fractions

Comparing common fraction with the same denominator



Activity 1 Compare between $\frac{3}{5}$, $\frac{2}{5}$:

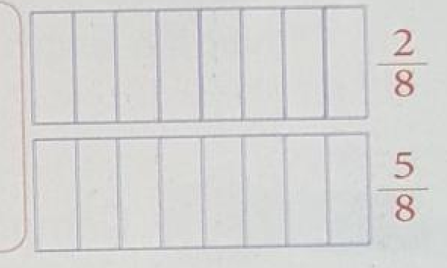


Notice :
Number of parts of $\frac{3}{5}$ more than number of parts of $\frac{2}{5}$

So $\frac{3}{5} > \frac{2}{5}$

Remarks : When the denominators are equal the fraction with the smallest numerator is the smallest.

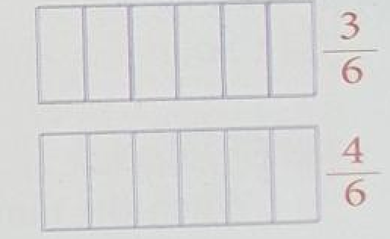
Practice 1 Compare between $\frac{5}{8}$, $\frac{2}{8}$:



Notice :
Number of parts of ...... more than number of parts ......

So: The fraction .... > The fraction ....

Practice 2 Compare between $\frac{3}{6}$, $\frac{4}{6}$:



Notice :
Number of parts of ...... more than number of parts ......

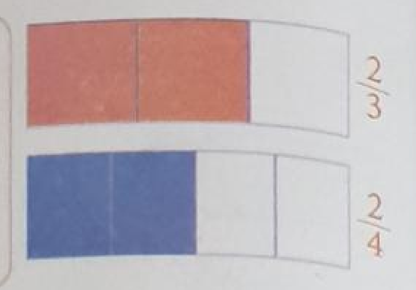
So: The fraction .... > The fraction ....

Comparing two unlike fraction with the same numerator

Activity 2 Compare between $\frac{2}{3}$, $\frac{2}{4}$:

Notice:
The length of red parts are longer than the length of blue parts.

So: $\frac{2}{3} > \frac{2}{4}$



Practice 3 Compare between $\frac{3}{8}$, $\frac{3}{4}$:

Notice :
The length of .... parts are longer than the length of .... parts .

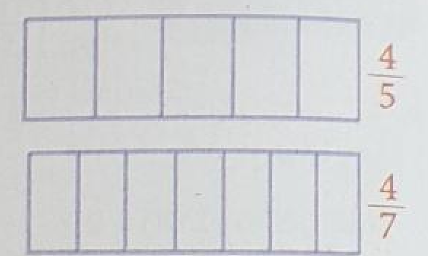
So .... > ....



Practice 4 Compare between $\frac{4}{5}$, $\frac{4}{7}$:

Notice :
The length of .... parts are longer than the length of .... parts .

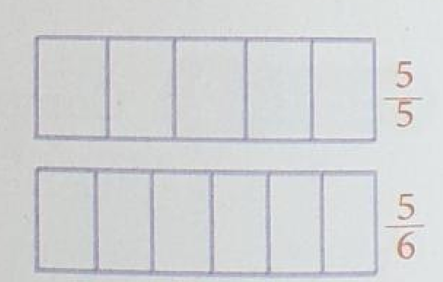
So .... > ....



Practice 5 Compare between $\frac{5}{5}$, $\frac{5}{6}$:

Notice :
The length of .... parts are longer than the length of .... parts .

So .... > ....



Remarks :

When the numerators are equal, the fraction with greater denominator is the smaller.

Practice 6 Circle the greater :

a) $\frac{3}{7}$, $\frac{2}{7}$ b) $\frac{2}{5}$, $\frac{4}{5}$ c) $\frac{1}{2}$, $\frac{1}{4}$

d) $\frac{5}{9}$, $\frac{7}{9}$ e) $\frac{4}{5}$, $\frac{4}{6}$ f) 1 , $\frac{3}{8}$

Practice 7 Compare using (<, =, >) :

a) $\frac{1}{3}$ .... $\frac{2}{3}$

b) $\frac{4}{7}$ .... $\frac{1}{7}$

c) $\frac{4}{10}$ .... $\frac{7}{10}$

d) $\frac{1}{6}$ .... $\frac{2}{6}$

e) 1 .... $\frac{1}{7}$

f) $\frac{1}{5}$ .... $\frac{1}{8}$

g) $\frac{2}{6}$ .... $\frac{2}{5}$

h) $\frac{3}{4}$ .... $\frac{3}{9}$

Practice 8 Arrange the following fractions:

a) $\frac{1}{5}$, $\frac{3}{5}$, $\frac{5}{5}$, $\frac{2}{5}$, $\frac{4}{5}$

In an ascending order : ....

b) $\frac{2}{8}$, $\frac{7}{8}$, $\frac{1}{8}$, zero , $\frac{5}{8}$

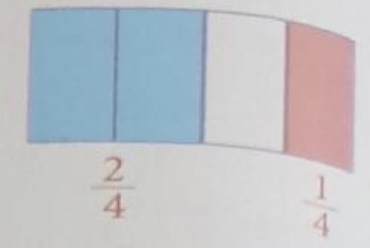
In an ascending order : ....

c) $\frac{1}{6}$, 1 , $\frac{4}{6}$, $\frac{5}{6}$, $\frac{3}{6}$

In a descending order : ....

Adding two like fractions

Activity 3 Using the models to add $\frac{2}{4}$, $\frac{1}{4}$:



Notice: all denominators are the same

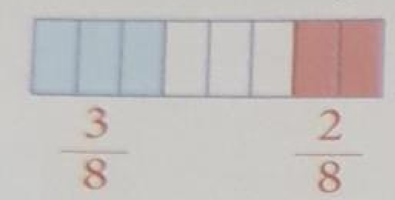
So add the numbers of parts

(Add the numerators only)

Then $\frac{2}{4} + \frac{1}{4} = \frac{3}{4}$

Practice 9 Add using the model as in (a) :

a) $\frac{3}{8} + \frac{2}{8} = \frac{\cdots}{8}$



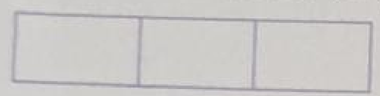
Notice all denominators are like

** **Add numerators only**

Then $\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$

b) $\frac{1}{3} + \frac{1}{3} = \frac{\cdots}{3}$

** **Add numerators only**



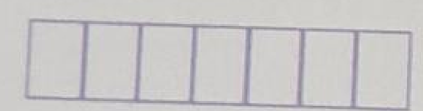
c) $\frac{1}{6} + \frac{3}{6} = \frac{\cdots}{6}$

** **Add numerators only**



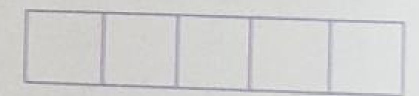
d) $\frac{2}{7} + \frac{4}{7} = \frac{\cdots}{7}$

** **Add numerators only**



e) $\frac{1}{5} + \frac{3}{5} = \frac{\cdots}{5}$

** **Add numerators only**



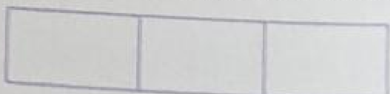
d) $\frac{2}{4} + \frac{2}{4} = \frac{\cdots}{4}$

** **Add numerators only**



e) $\frac{1}{3} + \frac{2}{3} = \frac{\cdots}{3}$

** **Add numerators only**



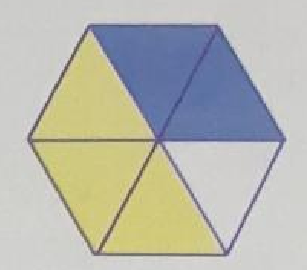
Activity 4 Complete as the Ex :

- The blue part represents = $\frac{3}{9}$
- The red part represents = $\frac{2}{9}$
- The coloured parts = $\frac{3}{9} + \frac{2}{9} = \frac{5}{9}$



Practice 10 Complete :

a - The purple part represents = $\frac{\dots}{\dots}$
- The yellow part represents = $\frac{\dots}{\dots}$
- The coloured parts = $\frac{\dots}{\dots} + \frac{\dots}{\dots} = \frac{\dots}{\dots}$



b - The green part represents = $\frac{\dots}{\dots}$
- The orange part represents = $\frac{\dots}{\dots}$
- The coloured parts = $\frac{\dots}{\dots} + \frac{\dots}{\dots} = \frac{\dots}{\dots}$



Practice 11 Add :

a $\frac{2}{5} + \frac{1}{5} = \frac{\dots}{\dots}$

b $\frac{1}{7} + \frac{4}{7} = \frac{\dots}{\dots}$

c $\frac{1}{3} + \frac{1}{3} = \frac{\dots}{\dots}$

d $\frac{3}{8} + \frac{2}{8} = \frac{\dots}{\dots}$

e $\frac{1}{14} + \frac{8}{14} = \frac{\dots}{\dots}$

f $\frac{9}{19} + \frac{2}{19} = \frac{\dots}{\dots}$

g $\frac{5}{6} + \frac{1}{6} = \frac{\dots}{\dots}$

h $\frac{3}{10} + \frac{7}{10} = \frac{\dots}{\dots}$

Self - check on lesson (87, 88)

1 Put the suitable sign [> , = , <] :

a $\frac{3}{4}$ ☐ $\frac{1}{4}$

b $\frac{3}{6}$ ☐ $\frac{5}{6}$

c $\frac{8}{9}$ ☐ 1

d $\frac{7}{10}$ ☐ $\frac{7}{10}$

e $\frac{4}{5}$ ☐ $\frac{1}{5}$

f $\frac{7}{8}$ ☐ $\frac{6}{8}$

g $\frac{4}{7}$ ☐ $\frac{4}{8}$

h $\frac{3}{10}$ ☐ $\frac{3}{5}$

i $\frac{1}{5}$ ☐ $\frac{1}{6}$

j 1 ☐ $\frac{2}{3}$

2 Add :

a $\frac{3}{7} + \frac{2}{7} = \frac{\dots}{\dots}$

b $\frac{1}{5} + \frac{3}{5} = \frac{\dots}{\dots}$

c $\frac{2}{6} + \frac{1}{6} = \frac{\dots}{\dots}$

d $\frac{2}{3} + \frac{1}{3} = \frac{\dots}{\dots}$

e $\frac{3}{9} + \frac{5}{9} = \frac{\dots}{\dots}$

f $\frac{7}{10} + \frac{1}{10} = \frac{\dots}{\dots}$

g $\frac{3}{15} + \frac{3}{15} = \frac{\dots}{\dots}$

h $\frac{2}{6} + \frac{2}{6} = \frac{\dots}{\dots}$

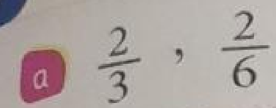
i $\frac{0}{6} + \frac{2}{6} = \frac{\dots}{\dots}$

j $\frac{5}{13} + \frac{7}{13} = \frac{\dots}{\dots}$

k $\frac{6}{7} + \frac{1}{7} = \frac{\dots}{\dots}$

l $\frac{31}{45} + \frac{4}{45} = \frac{\dots}{\dots}$





3 Colour as the fraction then compare :

a $\frac{2}{3}$, $\frac{2}{6}$

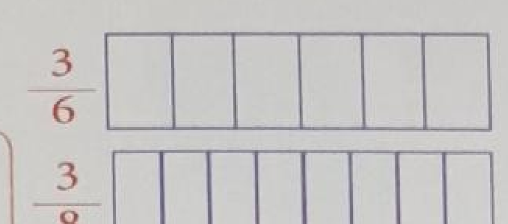


Notice:

The length of .... **longer than** the length of ....

Then .... > ....

b $\frac{3}{6}$, $\frac{3}{8}$



Notice:

The length of .... **longer than** the length of ....

Then .... > ....

4 Arrange the following fractions :

a $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, 1

In an ascending order : ...., ..., ..., ...

b $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{2}$, Zero

In an ascending order : ...., ..., ..., ...

c $\frac{1}{3}$, 1 , $\frac{1}{6}$, $\frac{1}{9}$

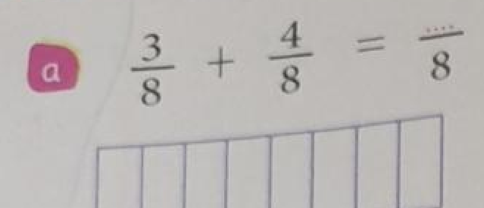
In a descending order : ...., ..., ..., ...

d $\frac{1}{4}$, 1 , $\frac{1}{7}$, $\frac{1}{8}$

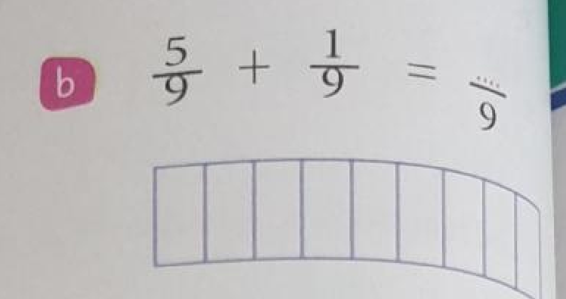
In a descending order : ...., ..., ..., ...

5 Add using the model :

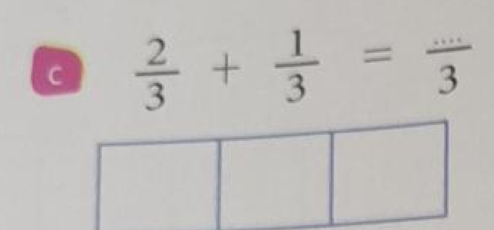
a $\frac{3}{8} + \frac{4}{8} = \frac{....}{8}$



b $\frac{5}{9} + \frac{1}{9} = \frac{....}{9}$



c $\frac{2}{3} + \frac{1}{3} = \frac{....}{3}$



d $\frac{4}{6} + \frac{1}{6} = \frac{....}{6}$

e $\frac{4}{7} + \frac{2}{7} = \frac{....}{7}$

f $\frac{1}{5} + \frac{2}{5} = \frac{....}{5}$

g $\frac{2}{4} + \frac{1}{4} = \frac{....}{4}$

h $\frac{1}{2} + \frac{1}{2} = \frac{....}{2}$

i $\frac{4}{9} + \frac{5}{9} = \frac{....}{9}$

j $\frac{3}{8} + \frac{3}{8} = \frac{....}{8}$

k $\frac{2}{5} + \frac{2}{5} = \frac{....}{5}$

l $\frac{1}{7} + \frac{6}{7} = \frac{....}{7}$

Subtracting like fraction

Activity 4 Subtract the two fractions $\frac{2}{4}$, $\frac{1}{4}$ using the model.

Notice all denominators are like

Then subtract the number of parts

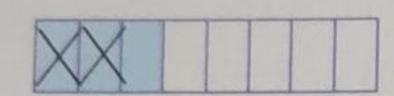
** Subtract the numerators only **



So $\frac{2}{4} - \frac{1}{4} = \frac{1}{4}$

Practice 1 Draw model then subtract as in (a) :

a) $\frac{3}{8} - \frac{2}{8} = \frac{....}{8}$



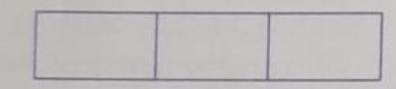
Notice all denominators are like

** Subtract the numerators only

So $\frac{3}{8} - \frac{2}{8} = \frac{1}{8}$

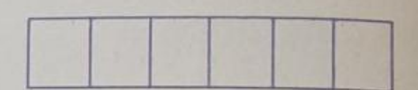
b) $\frac{2}{3} - \frac{1}{3} = \frac{....}{3}$

** Subtract the numerators only



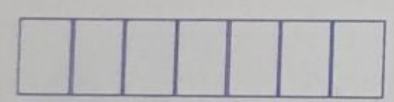
c) $\frac{5}{6} - \frac{2}{6} = \frac{....}{6}$

** Subtract the numerators only



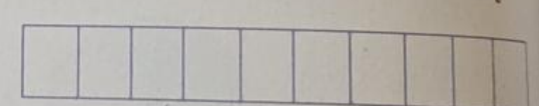
d) $\frac{4}{7} - \frac{2}{7} = \frac{....}{7}$

** Subtract the numerators only



e) $\frac{7}{10} - \frac{3}{10} = \frac{....}{10}$

** Subtract the numerators only



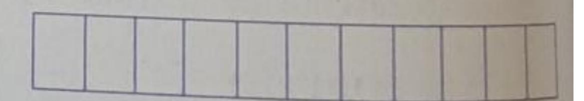
f) $\frac{7}{8} - \frac{3}{8} = \frac{....}{8}$

** Subtract the numerators only



g) $\frac{9}{11} - \frac{5}{11} = \frac{....}{11}$

** Subtract the numerators only



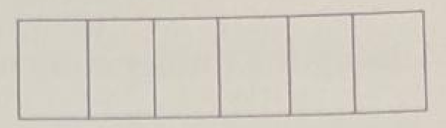


Mohammed ate $\frac{1}{6}$ of his sandwich at snack time and $\frac{2}{6}$ of his sandwich at lunch.
How much of his sandwich did he eat in all ?

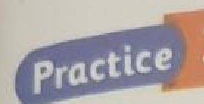


Notice all denominators are like

**** Subtract the numerators only ****



So $\frac{1}{6} + \frac{2}{6} = \frac{....}{6}$



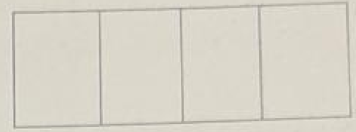
Omar brought $\frac{2}{4}$ of a candy bar to the playground . He gave $\frac{1}{4}$ of it to a friend .
How much does he have left ?



Notice all denominators are like

**** Subtract the numerators only ****

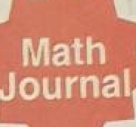




So $\frac{....}{4} - \frac{....}{4} = \frac{....}{4}$

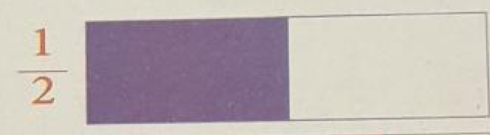
Practice 4

Maha and Nagi baked cakes that were the same size. Maha gave $\frac{3}{4}$ of her cake to her class. Nagi gave $\frac{1}{2}$ of his cake to his class . Which class received more cake, Maha's class or Nagi's class?



Notice all denominators are unlike

Compare between the length of the two colours

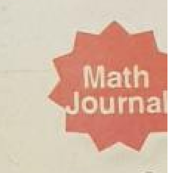


Then $\frac{....}{....} > \frac{....}{....}$

Then class .... takes the largest amount

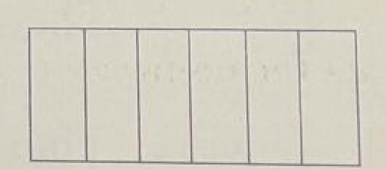
Practice 5

The juice at the container was $\frac{5}{6}$ full. Farida drunk $\frac{5}{6}$ of the container. How much juice was left in the container?



Notice all denominators are like

**** Subtract the numerators only ****





The reminder $= \frac{....}{6} - \frac{....}{6} = \frac{....}{6}$

Practice 6 Yesterday, Marwan ran $\frac{2}{8}$ of a kilometre and then stopped to drink some water. After his break, he ran another $\frac{2}{8}$ of a kilometre. What fraction of a kilometre did Marwan run yesterday?

Math Journal

**Adding the numerators only

Then $\frac{....}{8} + \frac{....}{8} = \frac{....}{8}$



Practice 7 Wagdy's house is $\frac{2}{3}$ of a kilometre from school. Taha's house is $\frac{1}{3}$ of a kilometre from school. Who lives closest to school?



Note: All the denominators are the same
(Compare the two numerators)

The fraction .... > The fraction ....

Home of .... closer to school



Activity 5 Read then complete as in (a) :

(a) $\frac{2}{7} + \frac{3}{7} = \frac{5}{7}$ Then $\frac{5}{7} - \frac{2}{7} = \frac{3}{7}$, $\frac{5}{7} - \frac{3}{7} = \frac{2}{7}$

(b) $\frac{5}{8} + \frac{2}{8} = \frac{....}{8}$ Then $\frac{7}{8} - \frac{2}{8} = \frac{....}{8}$, $\frac{....}{8} - \frac{....}{8} = \frac{....}{8}$

(c) $\frac{2}{4} + \frac{1}{4} = \frac{....}{4}$ Then $\frac{....}{4} - \frac{....}{4} = \frac{....}{4}$, $\frac{....}{4} - \frac{....}{4} = \frac{....}{4}$

(d) $\frac{2}{9} + \frac{6}{9} = \frac{....}{9}$ Then $\frac{....}{9} - \frac{....}{9} = \frac{....}{9}$, $\frac{....}{9} - \frac{....}{9} = \frac{....}{9}$

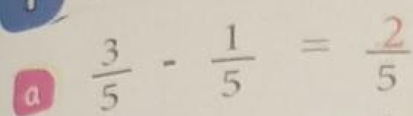
(e) $\frac{4}{6} + \frac{1}{6} = \frac{....}{6}$ Then $\frac{....}{6} - \frac{....}{6} = \frac{....}{6}$, $\frac{....}{6} - \frac{....}{6} = \frac{....}{6}$

Self - check on lesson (89 , 90)

1 Subtract , Draw a model to show your work as in (a) :

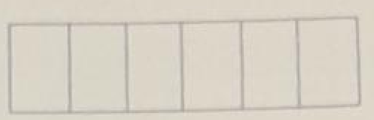
a $\frac{3}{5} - \frac{1}{5} = \frac{2}{5}$

** Subtract the numerator only.



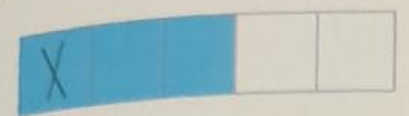
b $\frac{5}{6} - \frac{1}{6} = \frac{....}{6}$

** Subtract the numerator only.



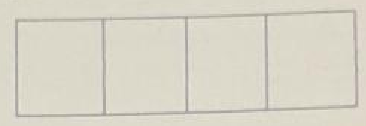
c $\frac{4}{7} - \frac{2}{7} = \frac{....}{7}$

** Subtract the numerator only.



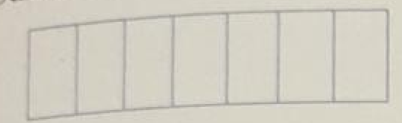
d $\frac{3}{4} - \frac{1}{4} = \frac{....}{4}$

** Subtract the numerator only.



e $\frac{7}{8} - \frac{2}{8} = \frac{....}{8}$

** Subtract the numerator only.



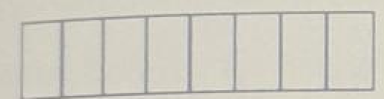
f $\frac{2}{3} - \frac{1}{3} = \frac{....}{3}$

** Subtract the numerator only.



g $\frac{5}{8} - \frac{3}{8} = \frac{....}{8}$

** Subtract the numerator only.



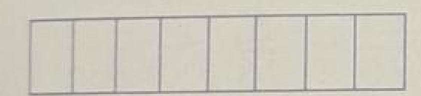
h $\frac{2}{2} - \frac{1}{2} = \frac{....}{2}$

** Subtract the numerator only.



i $\frac{3}{6} - \frac{2}{6} = \frac{....}{6}$

** Subtract the numerator only.



j $1 - \frac{3}{5} = \frac{....}{5}$

** Subtract the numerator only.





2 Subtract :

a) $\frac{7}{8} - \frac{5}{8} = \frac{\cdots}{\cdots}$

b) $\frac{3}{4} - \frac{1}{4} = \frac{\cdots}{\cdots}$

c) $\frac{3}{5} - \frac{1}{5} = \frac{\cdots}{\cdots}$

d) $\frac{9}{10} - \frac{5}{10} = \frac{\cdots}{\cdots}$

e) $\frac{15}{15} - \frac{7}{15} = \frac{\cdots}{\cdots}$

f) $\frac{4}{7} - \frac{1}{7} = \frac{\cdots}{\cdots}$

g) $\frac{7}{9} - \frac{4}{9} = \frac{\cdots}{\cdots}$

h) $1 - \frac{1}{6} = \frac{\cdots}{\cdots}$

i) $\frac{2}{3} - \frac{1}{3} = \frac{\cdots}{\cdots}$

j) $1 - \frac{3}{5} = \frac{\cdots}{\cdots}$

3 Complete :

a) $\frac{9}{12} + \frac{\cdots}{12} = \frac{10}{12}$

b) $\frac{5}{14} - \frac{\cdots}{14} = \frac{1}{14}$

c) $\frac{5}{9} - \frac{\cdots}{9} = \frac{2}{9}$

d) $\frac{3}{3} - \frac{1}{3} = \frac{\cdots}{3}$

e) $\frac{6}{7} - \frac{2}{7} = \frac{\cdots}{7}$

f) $\cdots - \frac{5}{9} = \frac{4}{9}$

g) $\frac{18}{18} - \frac{\cdots}{18} = \frac{1}{18}$

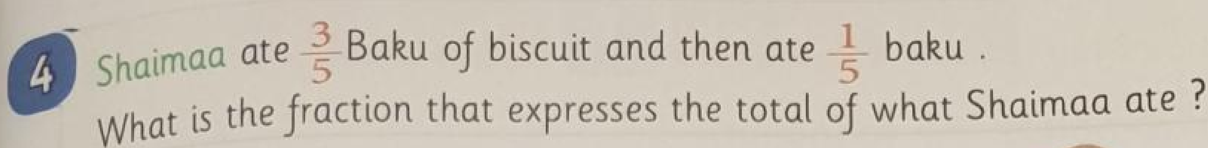
h) $\frac{23}{26} - \frac{2}{26} = \frac{\cdots}{26}$

i) $\frac{\cdots}{6} + \frac{2}{6} = \frac{5}{6}$

j) $\frac{3}{11} + \frac{2}{11} = \frac{\cdots}{11}$

k) $\frac{5}{7} + \frac{\cdots}{7} = \frac{6}{7}$

l) $\frac{\cdots}{8} - \frac{2}{8} = \frac{3}{8}$



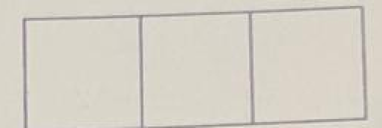
Notice : All the denominators are the same
(We add the numerators only)



Then $\frac{3}{5}$ + ... = ...

5 Monir brought $\frac{2}{3}$ a piece of candy from the fridge . And he gave $\frac{1}{3}$ to his sister. What is the fraction that expresses the remaining part with him ?

Notice : All the denominators are the same
(We Subtract the numerators only)

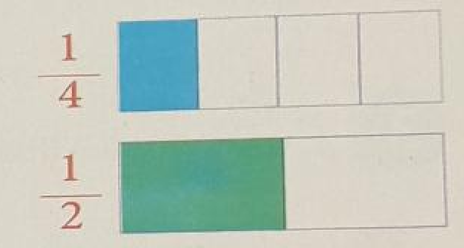


Then $\frac{....}{3}$ - $\frac{....}{3}$ = $\frac{....}{3}$

6 Aya and Alaa baked two pies of the same size, and Aya gave $\frac{1}{4}$ her pie to her children, and Alaa gave $\frac{1}{2}$ her cake to her children as well. Which children got more Aya's children or Alaa's children?

Notice : all denominators are unlike

Compare between the length of the two colours



The length of .... part is longer

The fraction .... > The fraction ....

So : children .... takes the largest size

7 The bottle of milk was $\frac{3}{4}$ full as much as you drank $\frac{2}{4}$ from the bottle.
What fraction expresses the amount of the remaining milk?

Notice : All the denominators are the same
(We Subtract the numerators only)



Then the remaining = $\frac{3}{4}$ - $\frac{....}{4}$ = $\frac{....}{4}$

Self - check 1 Chapter 3

1 Complete the following :

a $\frac{1}{3} + \frac{1}{3} = \dots\dots$ $\frac{3}{4} - \frac{1}{4} = \dots\dots$

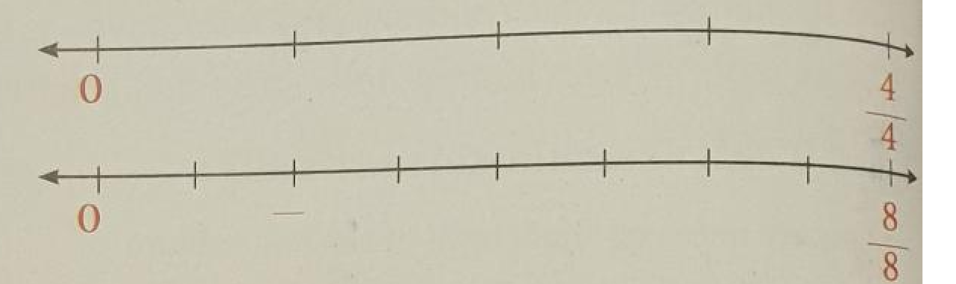
b $\frac{5}{7} + \frac{1}{7} = \dots\dots$ $\frac{5}{8} - \frac{3}{8} = \dots\dots$

c $1 - \frac{1}{4} = \dots\dots$ $1 - \frac{3}{5} = \dots\dots$

d $\frac{1}{2} + \frac{1}{2} = \dots\dots$ $\frac{2}{5} - \frac{3}{5} = \dots\dots$

2 Compare between $\frac{1}{4}$, $\frac{1}{8}$. Show your work in the number line :

$\frac{1}{4}$ [.........] $\frac{1}{8}$



3 Compare using (< , = , >) :

a $\frac{1}{3}$ (.........) $\frac{1}{8}$

b $\frac{1}{2}$ (.........) $\frac{1}{2}$

c $\frac{4}{9}$ (.........) $\frac{4}{7}$

d $\frac{1}{4}$ (.........) $\frac{1}{5}$

e $\frac{1}{5}$ (.........) $\frac{1}{3}$

f $\frac{1}{6}$ (.........) $\frac{1}{9}$

g 1 (.........) $\frac{1}{3}$

h $\frac{7}{8}$ (.........) 1

4 Arrange the following :

a Ascendingly : $\frac{3}{5}$, $\frac{2}{5}$, $\frac{4}{5}$, $\frac{1}{5}$, 1

The order : ....

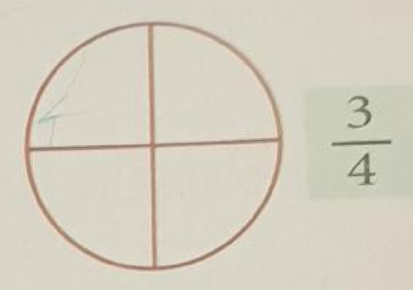
b Descendingly : $\frac{3}{8}$, $\frac{3}{5}$, $\frac{3}{4}$, $\frac{3}{7}$, $\frac{3}{9}$

The order : ....

5 Colour according to the fraction :



$\frac{5}{6}$



$\frac{3}{4}$

6 Answer the following :

a Complete: If you divide 25 counting items into fifths, then every fifth = ... of the counting elements.

b Which is bigger : half a cookie or half a cake ?

c Write the fraction that represents the coloured part.

The fraction is ....

d In my grandmother's garden 8 flowers , one of which is red .What is the fraction for the number of flowers that are not red ?



Self - check 2 On (the previous chapters)

1 Complete the following:

a) $2 \times 7 \times 2 = (...... \times ......) \times 2 = ... \times 2 = ...$

b) $36 \div ...... = 6$, because $6 \times ...... = 36$

c) Number of minutes in half an hour = ... minute

d) The perimeter of a square with side 9 cm = ... cm .

e) The area of a square with side 9 cm = ... cm^2.

f) 2 days = ... hours.

2 Complete the facts of 3 , 6 , 18 :

a) $3 \times ...... = 18$, $...... \times 6 = 18$

b) $18 \div ...... = 6$, $18 \div 6 = ...$

c) $6 + 6 + 6 = 6 \times ...... = ...$

d) $3 + 3 + 3 + 3 + 3 + 3 = 3 \times ...... = 18$

e) $3 \times 6 = ... \times 3 = ...$

3 Circle the value equal to the problem :

$$3 \times 6 \times 5$$

900 $(3 \times 5) \times 6$ 3×30 $3 \times (6 + 5)$

4 Complete the following :

a $\frac{2}{9} + \frac{4}{9} = \frac{....}{9}$ Then $\frac{6}{9} - \frac{2}{9} = \frac{....}{9}$ ، $\frac{6}{9} - \frac{....}{9} = \frac{....}{9}$

b $\frac{3}{8} + \frac{1}{8} = \frac{....}{8}$ Then $\frac{4}{8} - \frac{3}{8} = \frac{....}{8}$ ، $\frac{4}{8} - \frac{....}{8} = \frac{....}{8}$

c $3 \times 19 = 3 \times (10 + ...)$

$= (3 \times ......) + (3 \times ......) = ... + ... = ...$

5 Complete the following :

a $\frac{3}{5} + \frac{1}{5} =$ ....

b $\frac{3}{5} - \frac{1}{5} =$ ....

c $\frac{1}{7} + \frac{1}{7} =$ ....

d $\frac{1}{7} - \frac{1}{7} =$ ....

e $1 - \frac{4}{5} =$ ....

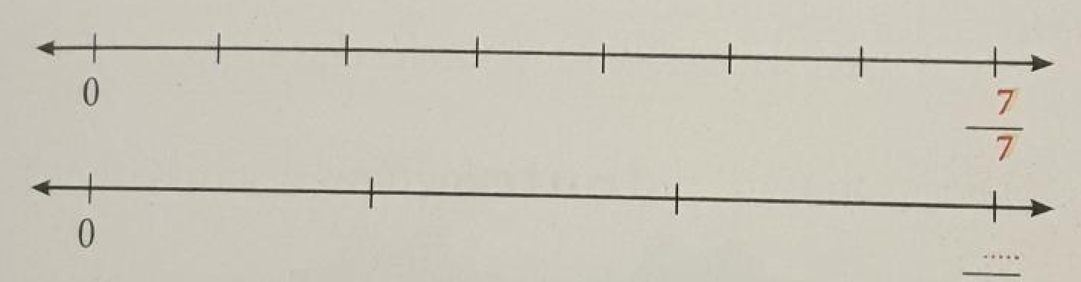
f $1 - \frac{1}{8} =$ ....

g Half the number (16) = ...

h Third the number (15) = ...

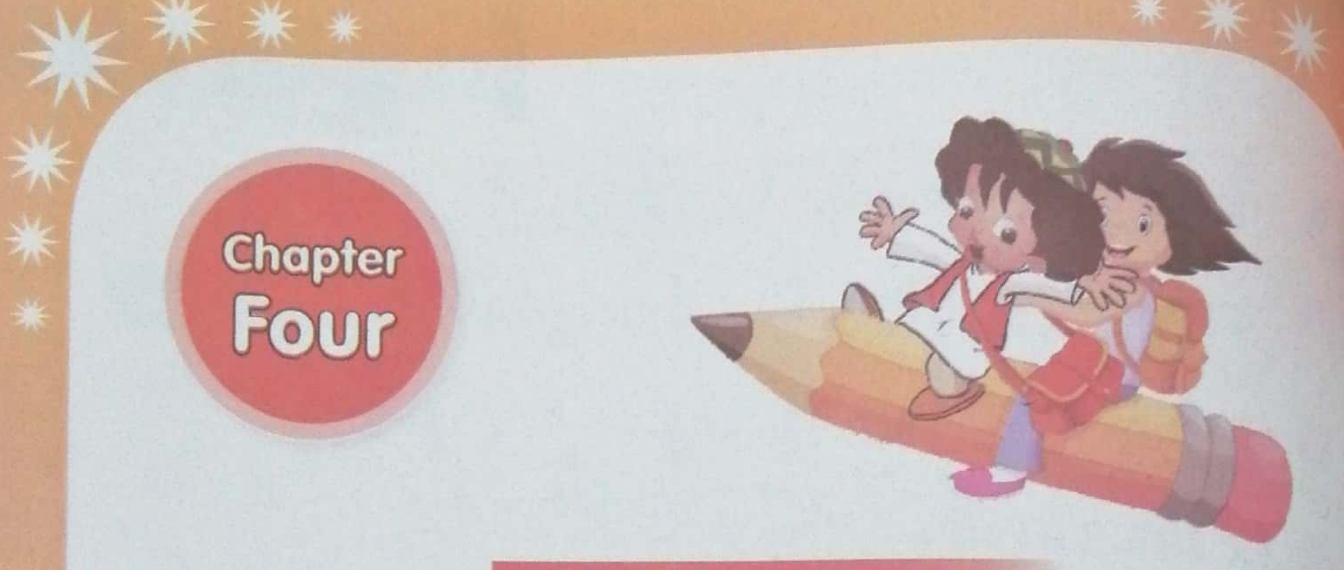
6 Answer the following :

a Using the number line show $\frac{1}{7}$ is less than $\frac{1}{3}$



b Draw a rectangle then divide it into 4 equal parts, then write the fraction which expresses each part.

For more applications and activities, enjoy with Bakkar Reviews



Chapter Four

Vocabulary

English	Arabic	English	Arabic
Equivalent	متكافئة	Addend	العناصر المجموعة
Associative	الدمج - التجميع	Bar model	نموذج الشريط
Factors	عوامل	Distributive	توزيع
Parentheses	أقواس	Perseverance	عزيمة
Product	حاصل الضرب	Review	مراجعة
Property	خاصية	Estimation	تقدير
Justify	يبرر - يعطي سبب	Reasonableness	إمكانية
Length	طول	Fact family	عائلة الحقائق
Parallel	متوازية	Minute	دقيقة
Perimeter	محيط	Quotient	خارج قسمة
Width	عرض	Hear	يسمع
Inverse	معكوس	Rounding	يقرب

Content



- Bakkar Self-Check
- Bakkar Exercise on lessons
- Exercise inspired from Math Journal
- Exercise inspired from Discover

Lesson (91 , 92)

Equivalent Fraction

Remember that

If the numerator equal to the denominator then the fraction equal to 1

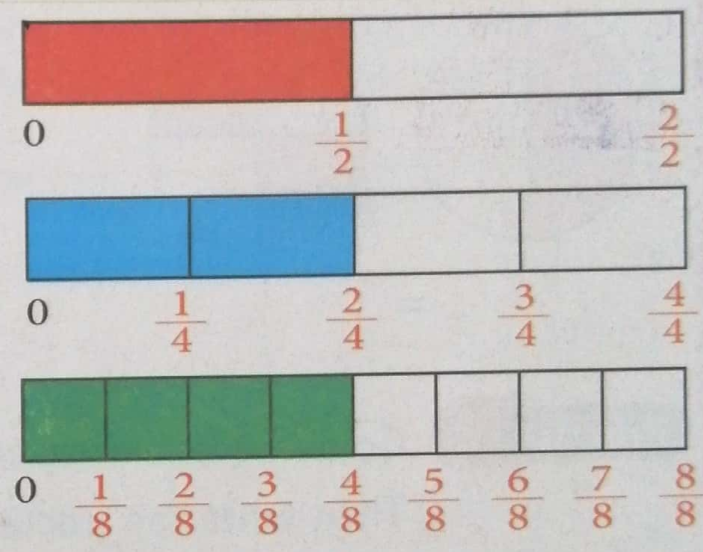
$1 = \frac{2}{2} = \frac{3}{3} = \frac{4}{4} = \frac{6}{6} = \frac{8}{8} = \dots\dots$

Activity 1 Dividing the strip to know the equivalent fraction:

The red part = $\frac{1}{2}$

The blue part = $\frac{2}{4}$

The green part = $\frac{4}{8}$



Notice The red part equivalent to the blue part

The fraction $\frac{1}{2}$ equivalent to $\frac{2}{4}$ Then $\frac{1}{2} = \frac{2}{4}$

Notice The red part equivalent to the green part

The fraction $\frac{1}{2}$ equivalent to $\frac{4}{8}$ Then $\frac{1}{2} = \frac{4}{8}$

Then $\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{5}{10} = \frac{6}{12} = \dots\dots$

Notice The numerator half the denominator

Practice 1 Record what fraction each model shows :

Math Journal

$\frac{1}{2}$ = $\frac{3}{6}$

$\frac{......}{......}$ = $\frac{......}{......}$

$\frac{......}{......}$ = $\frac{......}{......}$

$\frac{......}{......}$ = $\frac{......}{......}$

Practice 2 Colour $\frac{1}{2}$ each model ,

Then write the fraction under each one :

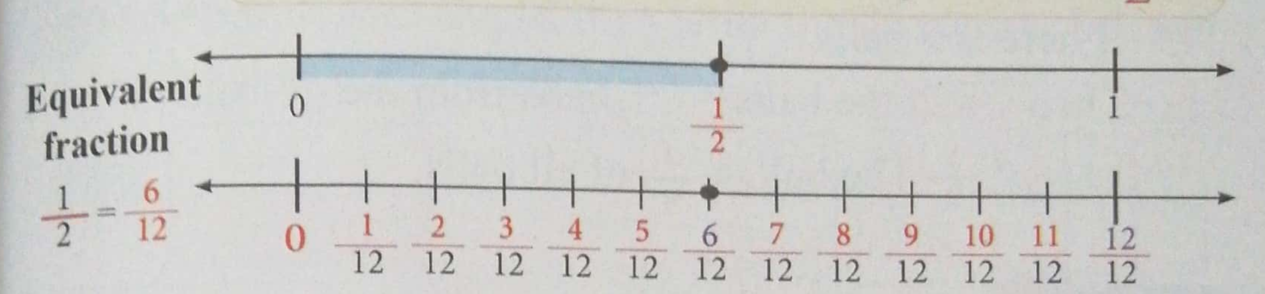
$\frac{4}{8}$ = $\frac{2}{4}$

$\frac{......}{......}$ = $\frac{......}{......}$

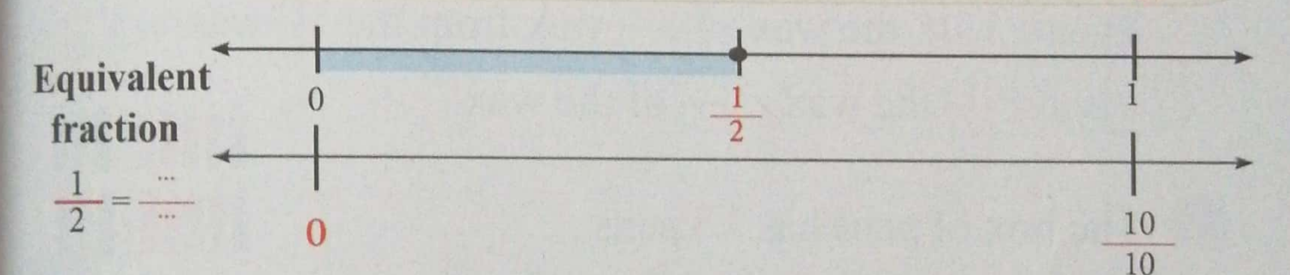
$\frac{......}{......}$ = $\frac{......}{......}$

$\frac{......}{......}$ = $\frac{......}{......}$

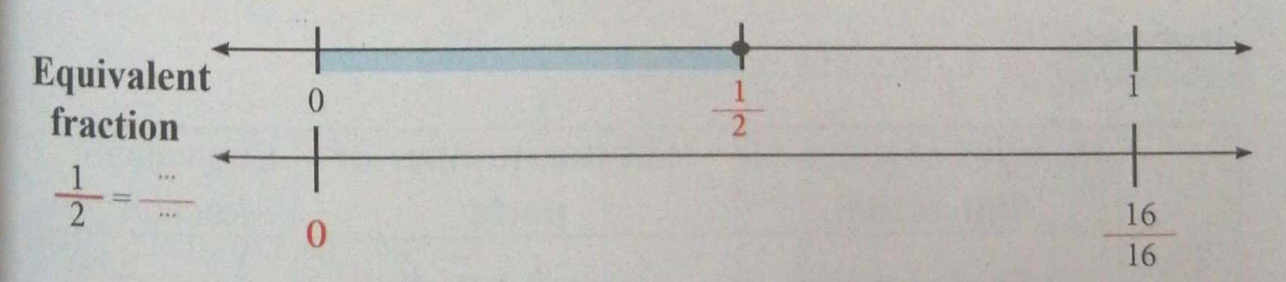
Activity 2 Divide the second number line into 12 equal parts , then write the equivalent fraction to $\frac{1}{2}$:



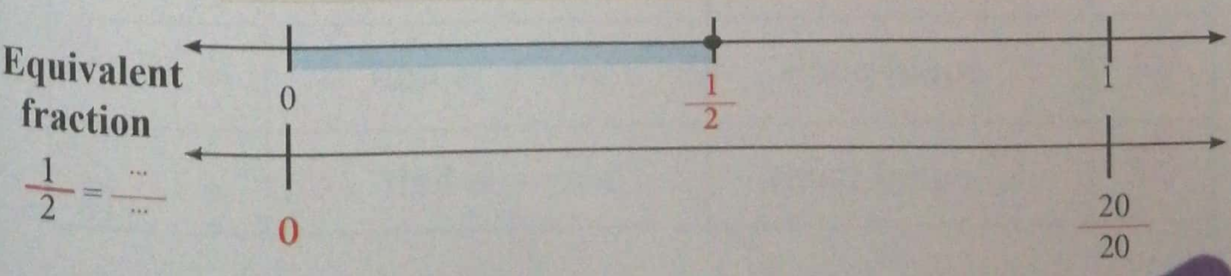
Practice 3 Divide the second number line into 10 equal parts, then write the equivalent fraction to $\frac{1}{2}$:



Practice 4 Divide the second number line into 16 equal parts, then write the equivalent fraction to $\frac{1}{2}$:



Practice 5 Divide the second number line into 20 equal parts ,then write the equivalent fraction to $\frac{1}{2}$:



Activity 3 Complete the following :

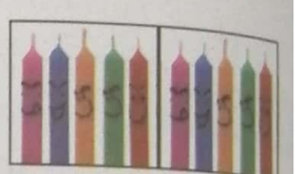


** If here is 8 balls ,

Then : half the balls = 4 balls from the 8 balls

Then : $\frac{1}{2}$ The ball = $\frac{4}{8}$ of all balls

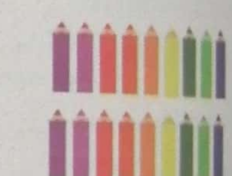
Practice 6 Complete the following :



a The box of wax has 10 wax ,

Then : half the wax = ... wax from the 10 wax

Then : $\frac{1}{2}$ the wax = $\frac{\dots}{\dots}$ of the wax



b The box of pens has 18 pens ,

Then : half the pens = ... pens from the ...... pens

Then : $\frac{1}{2}$ the number of pens = $\frac{\dots}{\dots}$ of all pens

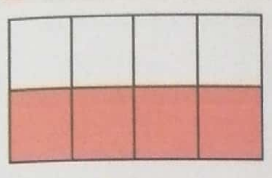
Practice 7 Complete as in (a) :

	Number of parts of the model	Half the number of parts	Equivalent fraction
a	8 equal parts	Then 4 is half 8	$\frac{1}{2} = \frac{4}{8}$
b	14 equal parts	Then ...... is half 14	$\frac{1}{2} = \frac{\dots}{14}$
c	6 equal parts	Then ...... is half 6	$\frac{1}{2} = \frac{\dots}{6}$
d	18 equal parts	Then ...... is half 18	$\frac{1}{2} = \frac{\dots}{18}$

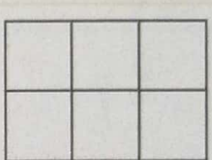
Self - check on lesson (91 , 92)

1 Colour half each model then write the equivalent fraction to $\frac{1}{2}$ below each model :

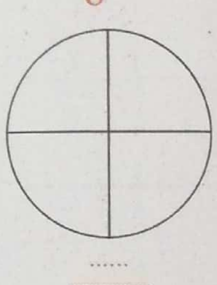
Ex 

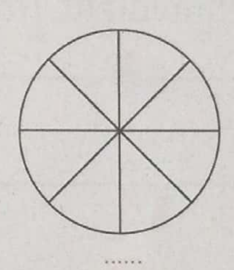


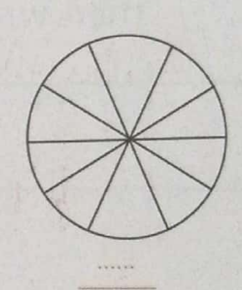
$\frac{4}{8}$



$\frac{......}{......}$ $\frac{......}{......}$







$\frac{......}{......}$ $\frac{......}{......}$ $\frac{......}{......}$

2 Choose the fraction that equivalent to $\frac{1}{2}$ as the Ex :

Ex $\frac{4}{4}$, ($\frac{2}{4}$) , $\frac{1}{4}$

$\frac{4}{8}$, $\frac{3}{8}$, $\frac{5}{8}$

$\frac{2}{10}$, $\frac{1}{10}$, $\frac{5}{10}$

$\frac{2}{6}$, $\frac{5}{6}$, $\frac{3}{6}$

$\frac{4}{12}$, $\frac{3}{12}$, $\frac{6}{12}$

$\frac{4}{20}$, $\frac{10}{20}$, $\frac{1}{20}$

3 Subtract as the Ex :

Ex $1 - \frac{3}{4} = \frac{4}{4} - \frac{3}{4} = \frac{1}{4}$

a) $1 - \frac{5}{7} =$ ...... $- \frac{5}{7} =$ ......

b) $1 - \frac{1}{6} =$ ...... $- \frac{1}{6} =$ ......

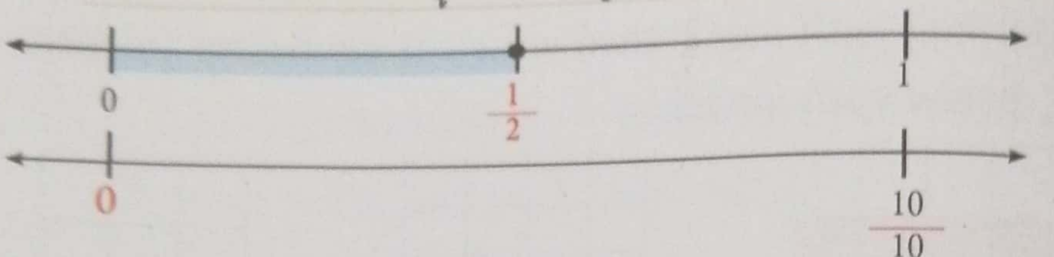
c) $1 - \frac{4}{9} =$ ...... $- \frac{4}{9} =$ ......

d) $1 - \frac{4}{5} =$ ...... $- \frac{4}{5} =$ ......

e) $1 - \frac{6}{7} =$ ...... $- \frac{6}{7} =$ ......

f) $1 - \frac{2}{3} =$ ...... $- \frac{2}{3} =$ ......

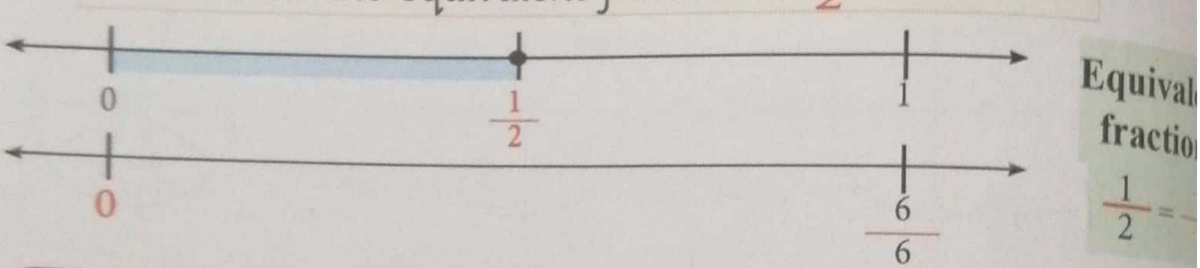
4 Divide the second number line into 10 equal parts , then write the equivalent fraction to $\frac{1}{2}$:



Equivalent fraction

$\frac{1}{2}$ = ...

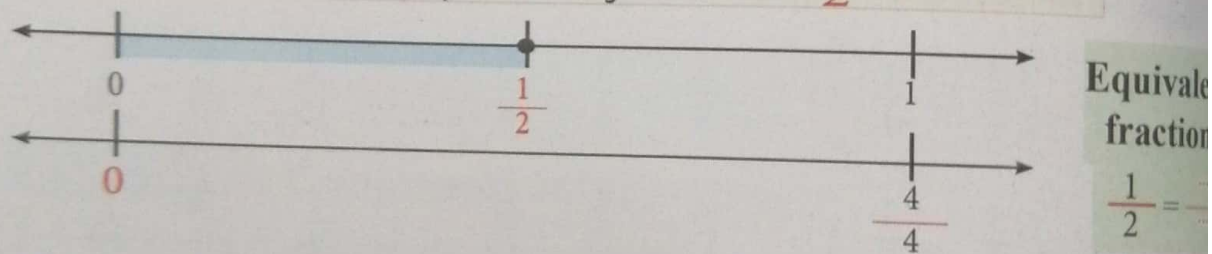
5 Divide the second number line into 6 equal parts , then write the equivalent fraction to $\frac{1}{2}$:



Equivalent fraction

$\frac{1}{2}$ = ...

6 Divide the second number line into 4 equal parts , then write the equivalent fraction to $\frac{1}{2}$:



Equivalent fraction

$\frac{1}{2}$ = ...

7 Complete to get the equivalent fraction to $\frac{1}{2}$ as in (**a**) :

	Number of parts of the model	Half the number of parts	Equivalent fraction
a	12 equal parts	Then 6 is half 12	$\frac{1}{2} = \frac{6}{12}$
b	16 equal parts	Then ...... is half 16	$\frac{1}{2} = \frac{......}{16}$
c	20 equal parts	Then ...... is half 20	$\frac{1}{2} = \frac{......}{20}$

8 Use the equivalent fraction to $\frac{1}{2}$ to add as the Ex :

Ex $\frac{1}{2} + \frac{2}{10} = \frac{5}{10} + \frac{2}{10} = \frac{7}{10}$

$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$

a $\frac{1}{2} + \frac{3}{10} = ... + \frac{3}{10} = ...$

b $\frac{1}{2} + \frac{3}{6} = ... + \frac{3}{6} = ...$

c $\frac{1}{2} + \frac{1}{12} = ... + \frac{1}{12} = ...$

d $\frac{1}{2} + \frac{4}{14} = ... + \frac{4}{14} = ...$

e $\frac{1}{2} + \frac{2}{6} = ... + \frac{2}{6} = ...$

f $\frac{1}{2} + \frac{1}{4} = ... + \frac{1}{4} = ...$

g $\frac{1}{2} + \frac{2}{8} = ... + \frac{2}{8} = ...$

h $\frac{1}{2} + \frac{3}{16} = ... + \frac{3}{16} = ...$

9 Use the equivalent fraction to $\frac{1}{2}$ to subtract as the Ex :

Ex $\frac{1}{2} - \frac{5}{24} = \frac{12}{24} - \frac{5}{24} = \frac{7}{24}$

$\frac{1}{2} = \frac{5}{10} = \frac{6}{12} = \frac{7}{14}$

a $\frac{1}{2} - \frac{3}{8} = ... - \frac{3}{8} = ...$

b $\frac{1}{2} - \frac{1}{10} = ... - \frac{1}{10} = ...$

c $\frac{1}{2} - \frac{2}{14} = ... - \frac{2}{14} = ...$

d $\frac{1}{2} - \frac{4}{12} = ... - \frac{4}{12} = ...$

e $\frac{1}{2} - \frac{5}{16} = ... - \frac{5}{16} = ...$

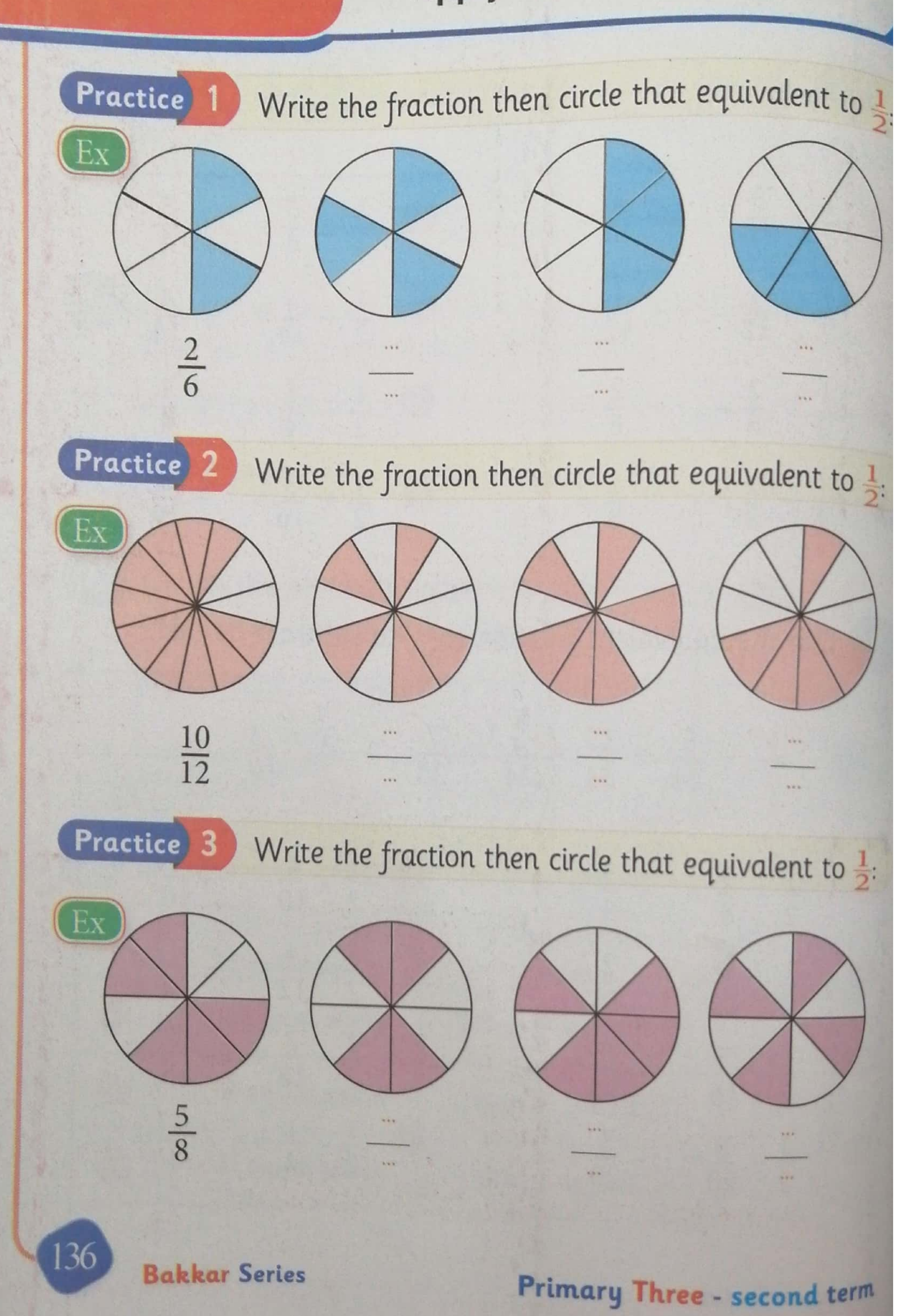
f $\frac{1}{2} - \frac{7}{18} = ... - \frac{7}{18} = ...$

g $\frac{1}{2} - \frac{5}{20} = ... - \frac{5}{20} = ...$

h $\frac{1}{2} - \frac{1}{4} = ... - \frac{1}{4} = ...$

Lesson (93 , 94)

Apply on equivalent fraction



Practice 1 Write the fraction then circle that equivalent to $\frac{1}{2}$:

Ex: $\frac{2}{6}$

Practice 2 Write the fraction then circle that equivalent to $\frac{1}{2}$:

Ex: $\frac{10}{12}$

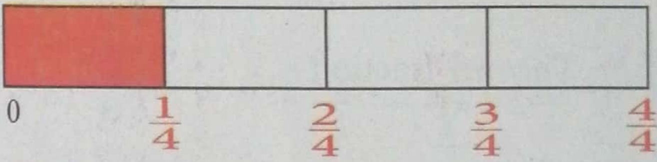
Practice 3 Write the fraction then circle that equivalent to $\frac{1}{2}$:

Ex: $\frac{5}{8}$

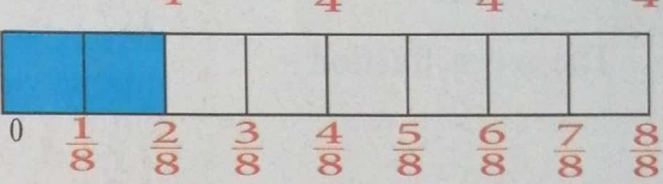
Scanned with CamScanner

Activity 1 Dividing the model to know the equivalent to fraction $\frac{1}{4}$:

The fraction of red part = $\frac{1}{4}$



The fraction of **blue** part = $\frac{2}{8}$



Notice The red part equal to the blue part.

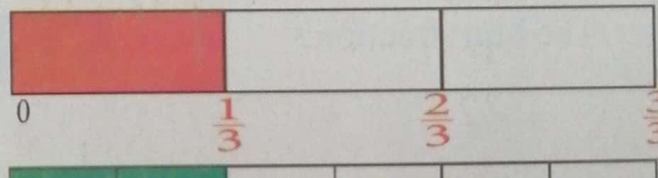
The fraction $\frac{1}{4}$ equivalent $\frac{2}{8}$ Then $\frac{1}{4} = \frac{2}{8}$

Some of the equivalent fractions $\frac{1}{4} = \frac{2}{8} = \frac{3}{12} = \frac{4}{16} = \frac{5}{20} =$ ....

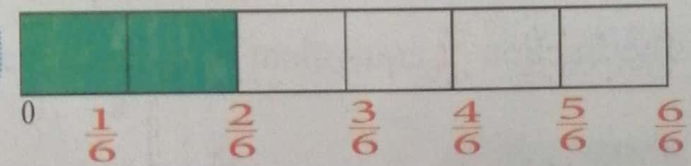
Notice the numerator equal fourth the denominator.

Activity 2 Find the equivalent fraction to $\frac{1}{3}$:

The **red** fraction= $\frac{1}{3}$



The **green** fraction = $\frac{2}{6}$

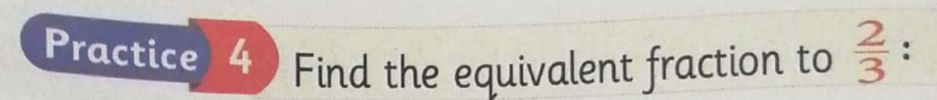


Notice The red part equal to the green part.

The fraction $\frac{1}{3}$ equivalent $\frac{2}{6}$ Then $\frac{1}{3} = \frac{2}{6}$

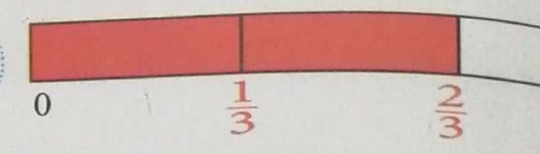
Some of the equivalent fractions $\frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12} = \frac{5}{15} =$ ....

Notice the numerator equal third the denominator.

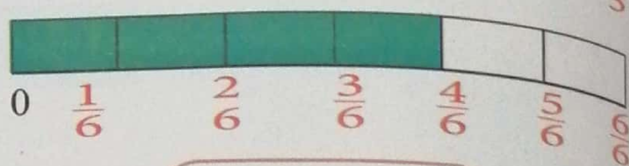


Practice 4 Find the equivalent fraction to $\frac{2}{3}$:

The red fraction = $\frac{2}{3}$



The green fraction = ...



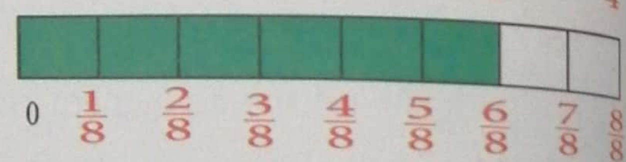
The fraction $\frac{2}{3}$ equivalent to .... Then $\frac{2}{3}$ = ...

Practice 5 Find the equivalent fraction to $\frac{3}{4}$:

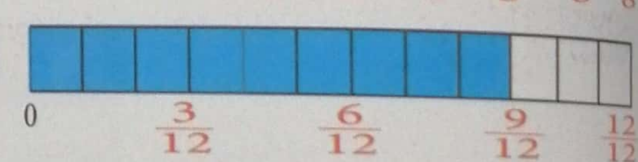
The red fraction= $\frac{3}{4}$



The green fraction = ...

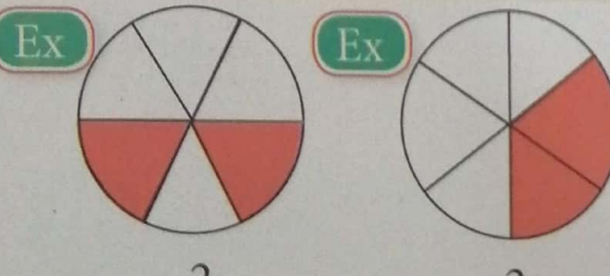


The blue fraction = ...

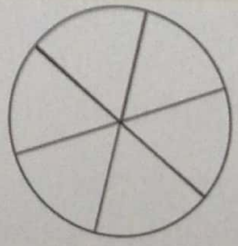


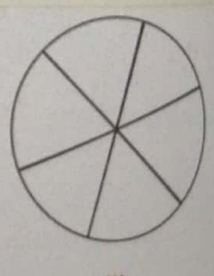
The fraction $\frac{3}{4}$ equivalent to .... , equivalent to .... Then $\frac{3}{4}$ = ... = ...

Practice 6 Colour with different ways $\frac{1}{3}$ of each model as the Ex :



$\frac{2}{6}$ $\frac{2}{6}$





$\frac{...}{...}$ $\frac{...}{...}$

Practice 7 Choose the equivalent fraction as in (a) :

a) $\frac{1}{4}$ ($\frac{3}{8}$, $\frac{2}{8}$ (circled), $\frac{1}{4}$)

b) $\frac{1}{2}$ ($\frac{7}{12}$, $\frac{6}{12}$, $\frac{5}{12}$)

c) $\frac{2}{3}$ ($\frac{2}{6}$, $\frac{3}{6}$, $\frac{4}{6}$)

d) $\frac{2}{4}$ ($\frac{5}{10}$, $\frac{6}{10}$, $\frac{7}{10}$)

e) $\frac{1}{3}$ ($\frac{2}{6}$, $\frac{5}{6}$, $\frac{3}{6}$)

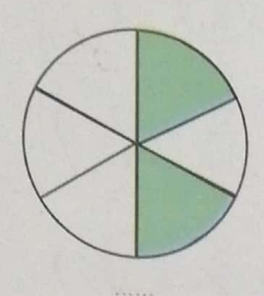
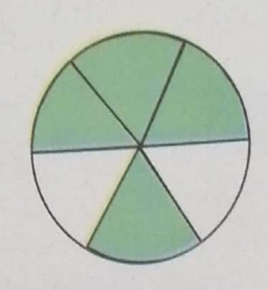
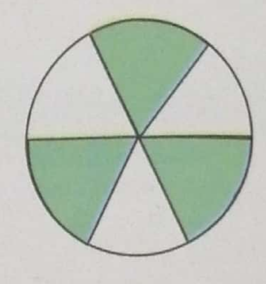
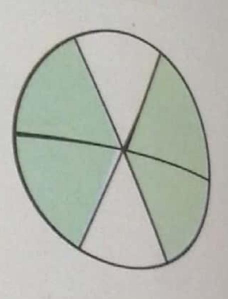
f) $\frac{3}{4}$ ($\frac{8}{8}$, $\frac{7}{8}$, $\frac{6}{8}$)

Practice 8 Join with the equivalent fraction as in (a):

a	$(\frac{1}{8} + \frac{1}{8})$ → $\frac{1}{4}$	$\frac{1}{3}$
b	$(\frac{1}{3} + \frac{1}{3})$	$\frac{1}{4}$
c	$(\frac{1}{6} + \frac{1}{6})$	$\frac{1}{2}$
d	$(\frac{3}{4} + \frac{1}{4})$	$\frac{2}{3}$
e	$(\frac{3}{10} + \frac{2}{10})$	$\frac{5}{5}$

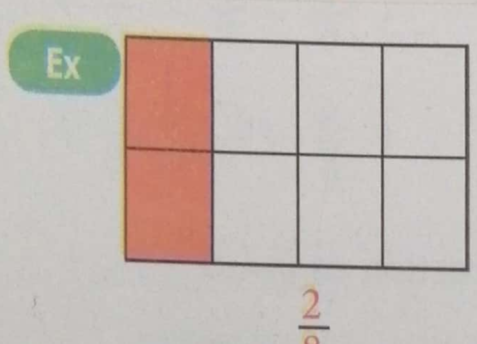
Self - check on lesson (93 , 94)

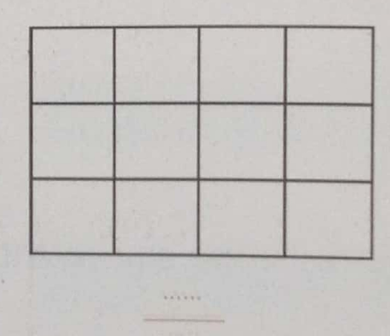
1 Write the fraction then circle that equivalent to $\frac{2}{3}$

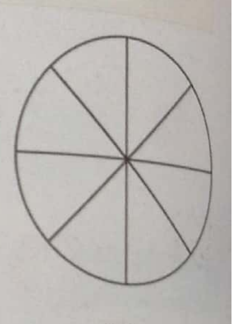





$\frac{\dots}{\dots}$ $\frac{\dots}{\dots}$ $\frac{\dots}{\dots}$ $\frac{\dots}{\dots}$

2 Colour fourth each model then write the equivalent fraction to $\frac{1}{4}$ as the example:

Ex

$\frac{2}{8}$

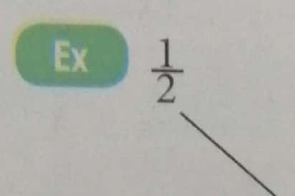

$\frac{\dots}{\dots}$


$\frac{\dots}{\dots}$

3 Join with the equivalent fraction:

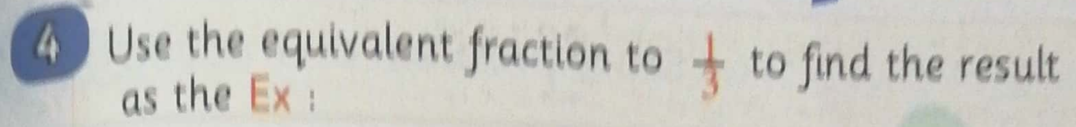
Ex

$\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{4}$ $\frac{2}{3}$ $\frac{3}{4}$ $\frac{6}{6}$



$\frac{2}{6}$ $\frac{2}{4}$ $\frac{6}{8}$ $\frac{2}{8}$ $\frac{4}{6}$ $\frac{5}{5}$





4 Use the equivalent fraction to $\frac{1}{3}$ to find the result as the Ex :



Ex $\frac{1}{3} + \frac{2}{9} = \frac{3}{9} + \frac{2}{9} = \frac{5}{9}$

a) $\frac{1}{3} + \frac{3}{6} =$ ...... $+ \frac{3}{6} =$ ......

b) $\frac{1}{3} + \frac{2}{15} =$ ...... $+ \frac{2}{15} =$ ......

c) $\frac{1}{3} - \frac{1}{12} =$ ...... $- \frac{1}{12} =$ ......

d) $\frac{1}{3} - \frac{1}{6} =$ ...... $- \frac{1}{6} =$ ......

e) $\frac{1}{3} + \frac{2}{6} =$ ...... $+ \frac{2}{6} =$ ......

f) $\frac{1}{3} + \frac{4}{12} =$ ...... $+ \frac{4}{8} =$ ......

g) $\frac{1}{3} + \frac{5}{9} =$ ...... $+ \frac{5}{9} =$ ......

h) $\frac{1}{3} - \frac{1}{9} =$ ...... $- \frac{1}{9} =$ ......

5 Use the equivalent fraction to $\frac{3}{4}$ to find the result as the Ex :

$\frac{3}{4} = \frac{6}{8} = \frac{9}{12} = \frac{12}{16}$

Ex $\frac{3}{4} - \frac{5}{8} = \frac{6}{8} - \frac{5}{8} = \frac{1}{8}$

a) $\frac{3}{4} - \frac{3}{12} =$ ...... $- \frac{3}{12} =$ ......

b) $\frac{3}{4} + \frac{1}{16} =$ ...... $+ \frac{1}{16} =$ ......

c) $\frac{3}{4} + \frac{2}{8} =$ ...... $+ \frac{2}{8} =$ ......

d) $\frac{3}{4} - \frac{4}{12} =$ ...... $- \frac{4}{12} =$ ......

e) $\frac{3}{4} - \frac{10}{16} =$ ...... $- \frac{10}{16} =$ ......

f) $\frac{3}{4} + \frac{1}{8} =$ ...... $+ \frac{1}{8} =$ ......

g) $\frac{3}{4} - \frac{5}{12} =$ ...... $- \frac{5}{12} =$ ......

h) $\frac{3}{4} - \frac{7}{16} =$ ...... $- \frac{7}{16} =$ ......

Lesson (95 , 96 , 97)

Story problem on fraction

Activity 1 Find the equivalent fraction :

$\frac{1}{2}$		$\frac{1}{2}$	
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

$\frac{1}{2} = \frac{2}{4}$ mean $\frac{1}{2} = \frac{2}{4}$ (×2, ×2)

$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$	
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

$\frac{2}{3} = \frac{4}{6}$ mean $\frac{2}{3} = \frac{4}{6}$ (×2, ×2)

$\frac{1}{2}$	$\frac{1}{2}$

$\frac{1}{2} = \frac{6}{12}$ mean $\frac{1}{2} = \frac{6}{12}$ (×6, ×6)

Practice 1 Complete as the (a) to get equivalent fraction :

a) $\frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{2}{4}$

b) $\frac{1}{2} = \frac{1 \times 3}{2 \times \dots} = \frac{3}{6}$

c) $\frac{1}{2} = \frac{1 \times 4}{2 \times 4} = \frac{\dots}{8}$

d) $\frac{1}{3} = \frac{1 \times \dots}{3 \times 2} = \frac{\dots}{6}$

e) $\frac{1}{3} = \frac{1 \times 3}{3 \times \dots} = \frac{3}{\dots}$

f) $\frac{1}{4} = \frac{\dots \times \dots}{4 \times 2} = \frac{\dots}{8}$

g) $\frac{1}{4} = \frac{1 \times \dots}{4 \times 3} = \frac{3}{\dots}$

h) $\frac{2}{4} = \frac{2 \times \dots}{4 \times \dots} = \frac{4}{\dots}$

i) $\frac{3}{4} = \frac{3 \times \dots}{4 \times 2} = \frac{\dots}{\dots}$

j) $\frac{2}{3} = \frac{2 \times \dots}{3 \times 2} = \frac{\dots}{\dots}$

Practice 2 Complete in the same way to find equivalent fraction as EX:

a) $\frac{1}{2} = \frac{1\times2}{2\times2} = \frac{1\times3}{2\times3} = \frac{1\times4}{2\times4}$

b) $\frac{2}{4} = \frac{2\times2}{\dots\times2} = \frac{\dots}{4\times3} = \frac{\dots}{\dots}$

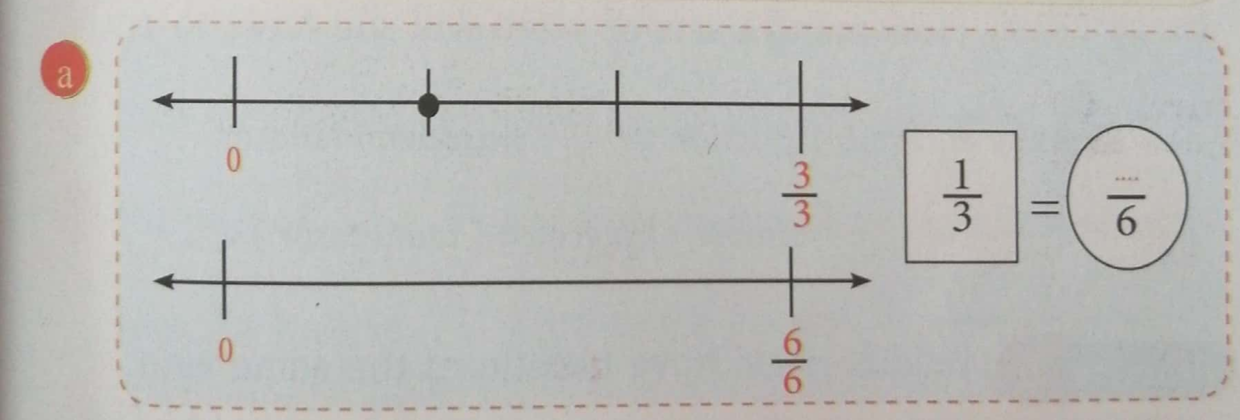
c) $1 = \frac{1}{1} = \frac{\dots\times2}{\dots\times2} = \frac{\dots}{\dots} = \frac{\dots}{\dots}$

d) $\frac{3}{5} = \frac{\dots}{\dots} = \frac{\dots}{\dots} = \frac{\dots}{\dots}$

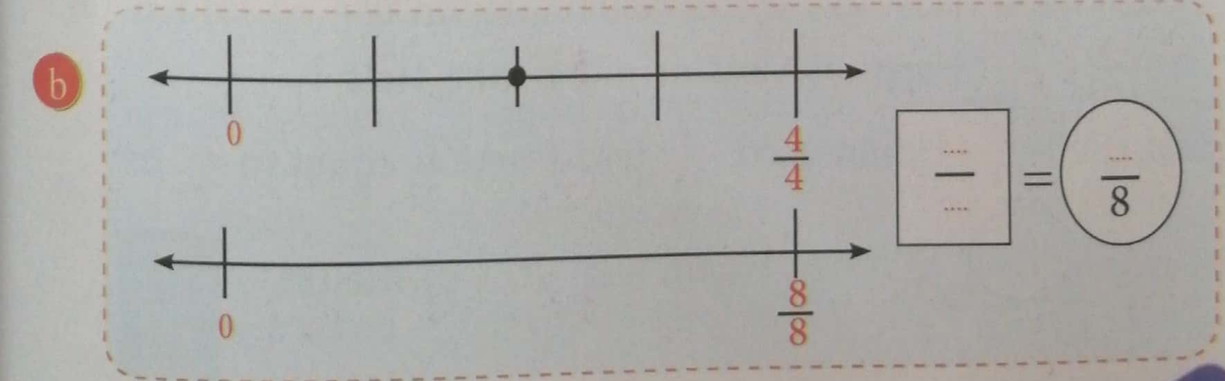
e) $\frac{2}{7} = \frac{\dots}{\dots} = \frac{\dots}{\dots} = \frac{\dots}{\dots}$

Practice 3 Write the fraction of the dot on the first line using the second line to show equivalent fraction to the first :

a)



b)





Practice 4

Habiba and Hatem both had 1 litre of juice.
Habiba said that her family drank $\frac{2}{4}$ of the litre .
Hatem said his family drank the same amount.
If Hatem measured his amount in eighths,
how much juice did his family drink?

Find the equivalent fraction to $\frac{2}{4}$ with denominator 8

The amount of $\frac{2}{4} = \frac{....}{8}$ litre

Practice 5

Jana and Menna each made a large pizza for dinner. Jana's pizza was cut into sixth, and Menna's pizza was cut into twelfths.
Jana ate $\frac{2}{6}$ of her pizza. If Menna wants to eat the same amount of pizza as Jana .
How many parts of pizza will she have to eat?

Find the equivalent fraction to $\frac{2}{6}$ with denominator ....

$\frac{2}{6} = \frac{....}{....}$ number of pieces = (numerator) ....

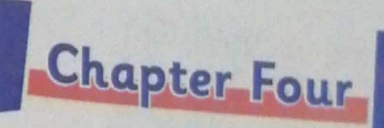
Practice 6

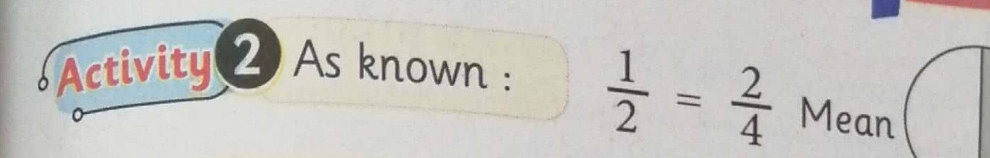
Hala & Hanin have two tin of the same kind
Hala use $\frac{2}{4}$ of her tin, Hanin use $\frac{3}{8}$ of her tin.
Hanin use less or more than Hala ?

Hala used $\frac{2}{4}$, Hanin used $\frac{3}{8}$ find fraction equal to $\frac{2}{4}$ as $\frac{......}{8}$

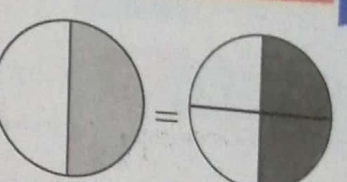
$\frac{.........}{8}$ ◯ $\frac{3}{8}$ Then Hanin use .... of the tin.







Activity 2 As known : $\frac{1}{2} = \frac{2}{4}$ Mean



Notice $\frac{2}{4}$ the numerator half the denominator

Then the fraction $\frac{2}{4}$ equal to the fraction $\frac{1}{2} \longrightarrow \frac{1}{2} = \frac{2}{4}$

Also the $\frac{5}{15}$ **numerator equal to third the denominator.**

Then the fraction $\frac{5}{15}$ equal to the fraction $\frac{1}{3} \longrightarrow \frac{5}{15} = \frac{1}{3}$

Also the $\frac{2}{8}$ **numerator equal to fourth the denominator.**

Then the fraction $\frac{2}{8}$ equal to the fraction $\frac{1}{4} \longrightarrow \frac{1}{4} = \frac{2}{8}$

Practice 7 Complete as in (a) :

a) The fraction $\frac{3}{21}$: It's numerator equal to **Seventh** the denominator.

Then the fraction $\frac{3}{21}$ equal to the fraction $\frac{1}{7} \longrightarrow \frac{3}{21} = \frac{....}{....}$

b) The fraction $\frac{3}{15}$: It's numerator equal to **Fifth** the denominator.

Then the fraction $\frac{3}{15}$ equal to the fraction $\frac{1}{....} \longrightarrow \frac{3}{15} = \frac{....}{....}$

c) The fraction $\frac{4}{16}$: It's numerator equal to .... the denominator.

Then the fraction $\frac{4}{16}$ equal to the fraction $\frac{1}{4} \longrightarrow \frac{4}{16} = \frac{....}{....}$

d) The fraction $\frac{3}{9}$: It's numerator equal to .... the denominator.

Then the fraction $\frac{3}{9}$ equal to the fraction $\frac{1}{....} \longrightarrow \frac{3}{9} = \frac{....}{....}$



Practice 8 Complete as in (a) :

(a) $\frac{6}{18} = \frac{2}{6}$ (÷3, ÷3)

(b) $\frac{4}{8} = \frac{\dots}{\dots}$ (÷2, ÷2)

(c) $\frac{3}{6} = \frac{\dots}{\dots}$ (÷3, ÷3)

(d) $\frac{2}{14} = \frac{\dots}{\dots}$ (÷2, ÷2)

(e) $\frac{5}{25} = \frac{\dots}{\dots}$ (÷5, ÷5)

(f) $\frac{7}{35} = \frac{\dots}{\dots}$ (÷7, ÷7)

(g) $\frac{8}{16} = \frac{\dots}{\dots}$ (÷4, ÷4)

(h) $\frac{9}{18} = \frac{\dots}{\dots}$ (÷9, ÷9)

(i) $\frac{6}{24} = \frac{\dots}{\dots}$ (÷6, ÷6)

Practice 9 Complete as in (a) :

(a) $\frac{4}{6} = \frac{2}{3}$

(b) $\frac{5}{10} = \frac{\dots}{\dots}$

(c) $\frac{7}{14} = \frac{\dots}{\dots}$

(d) $\frac{3}{9} = \frac{\dots}{\dots}$

(e) $\frac{4}{16} = \frac{\dots}{\dots}$

(f) $\frac{5}{15} = \frac{\dots}{\dots}$

(g) $\frac{2}{8} = \frac{\dots}{\dots}$

(h) $\frac{3}{12} = \frac{\dots}{\dots}$

(i) $\frac{5}{20} = \frac{\dots}{\dots}$

(j) $\frac{2}{10} = \frac{\dots}{\dots}$

(k) $\frac{3}{15} = \frac{\dots}{\dots}$

(l) $\frac{4}{20} = \frac{\dots}{\dots}$

Self- check on lesson (95 ,96 ,97)

1 Complete as in (a) :

a) $\frac{9}{12} = \frac{\dots}{4}$ **Then** $\frac{9}{12} = \frac{3}{4}$ (÷3, ÷3)

b) $\frac{2}{3} = \frac{4}{\dots}$

c) $\frac{1}{2} = \frac{\dots}{10}$

d) $\frac{2}{5} = \frac{6}{\dots}$

e) $\frac{4}{7} = \frac{\dots}{14}$

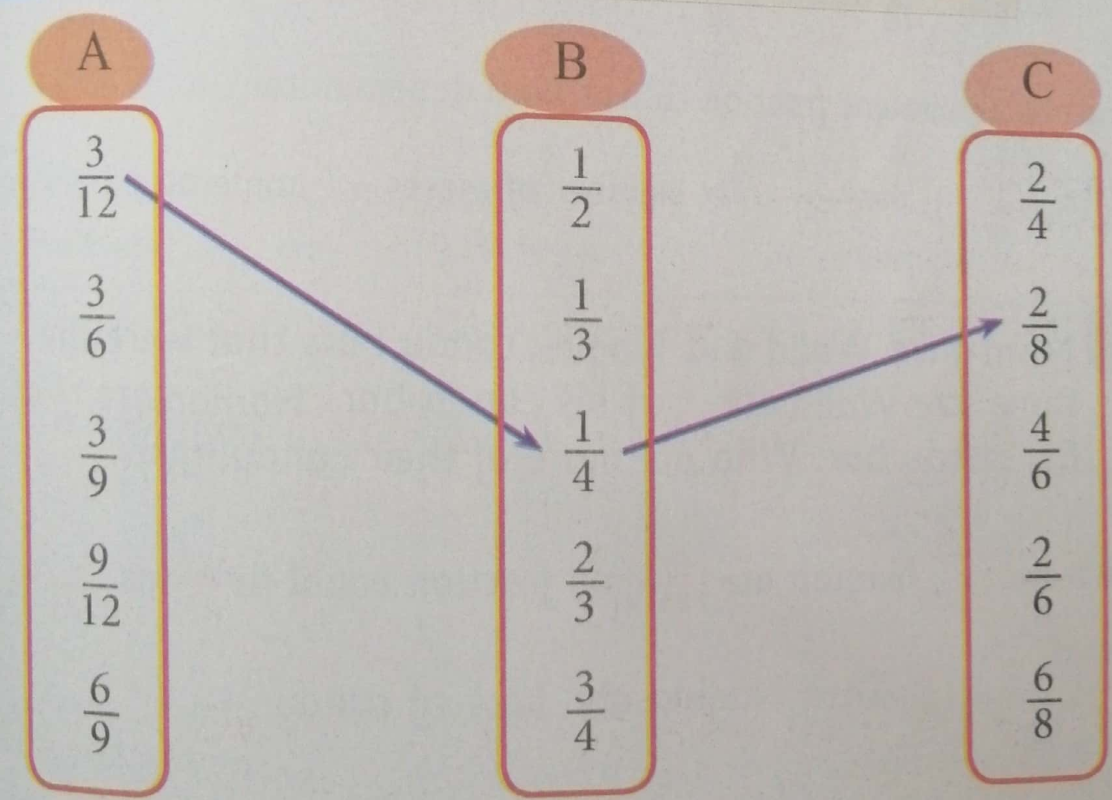
f) $\frac{7}{7} = \frac{5}{\dots}$

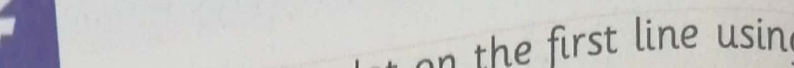
g) $\frac{5}{6} = \frac{10}{\dots}$

h) $\frac{1}{1} = \frac{10}{\dots}$

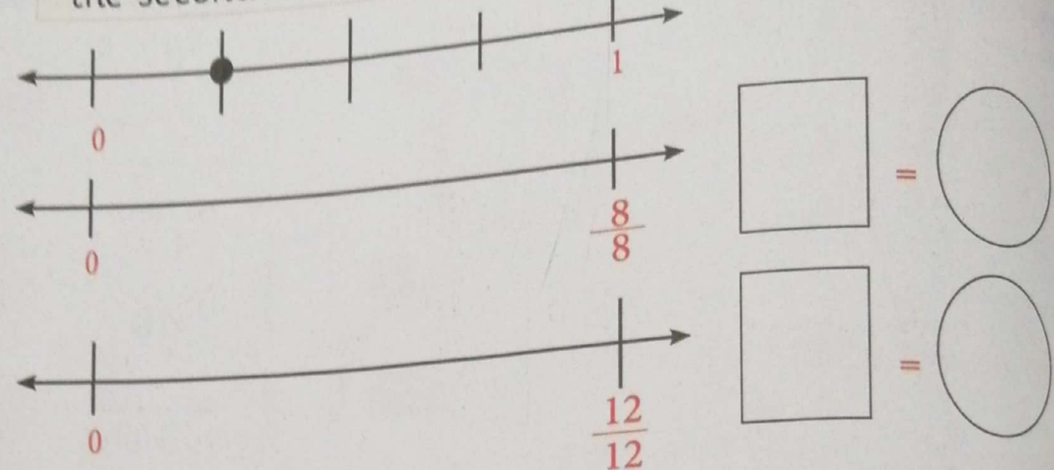
i) $\frac{3}{3} = \frac{6}{\dots}$

2 Join the equal fraction in (A) , (B) , (C) as the Ex :





3 Write the fraction of the dot on the first line using the second number line to show a fraction to the first :



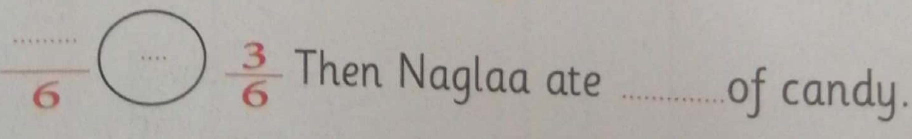
4 Moutaz and Kamal were eating same sized cakes. Moutaz's cake was cut into thirds and Kamal's cake was cut into sixths. Moutaz ate 2 slices of his cake. What fraction of his cake does Kamal have to eat to eat the same amount as Moutaz?

Find the equivalent fraction to $\frac{2}{3}$ with denominator ....

$\frac{2}{3} = \frac{....}{....}$ number of pieces = (numerator) ....

5 Mom gave Walid and Naglaa candy bars that were the same size. Walid ate $\frac{2}{3}$ of his candy bar. Naglaa ate $\frac{4}{6}$ of her candy bar. Who ate more of their candy bar?

Walid ate $\frac{2}{3}$, Naglaa ate $\frac{3}{6}$ find fraction equal to $\frac{2}{3}$ as $\frac{......}{6}$

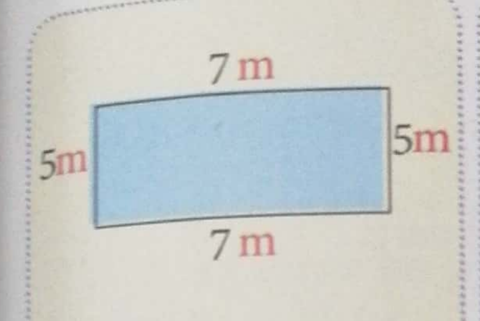


$\frac{......}{6}$ (....) $\frac{3}{6}$ Then Naglaa ate ....of candy.

Lesson (98 , 99 , 100)

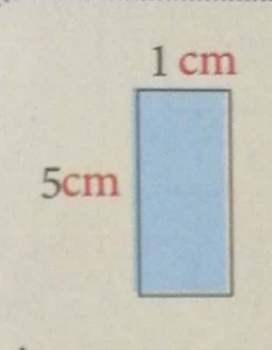
Relation between fraction and division

Practice 1 Complete the following:



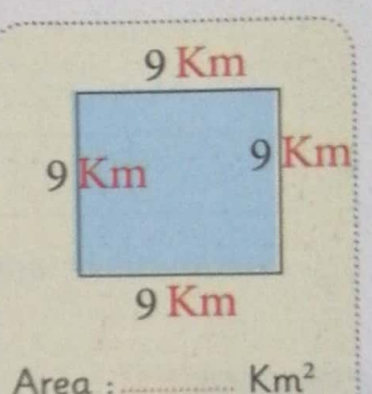
Area : .... m^2

Perimeter : .... m



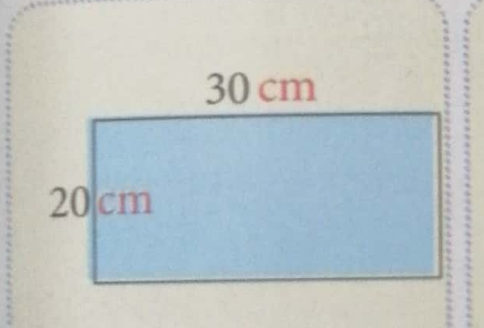
Area : .... cm^2

Perimeter : .... cm



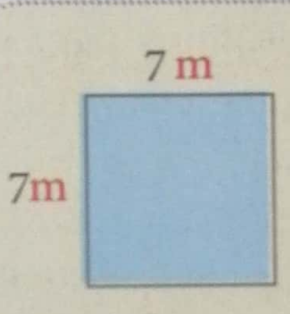
Area : .... Km^2

Perimeter : .... Km



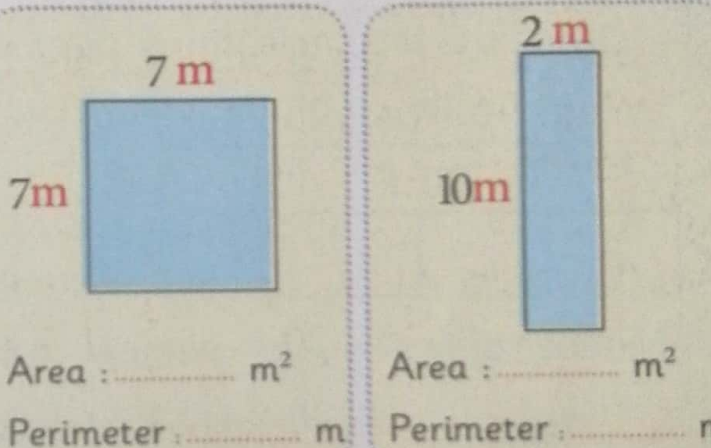
Area : .... cm^2

Perimeter : .... cm



Area : .... m^2

Perimeter : .... m



Area : .... m^2

Perimeter : .... m

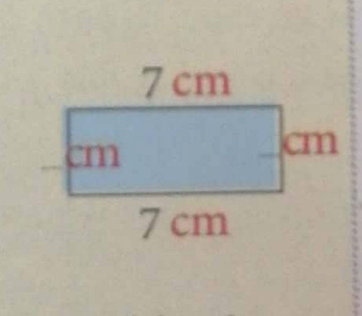
.... m

.... m .... m

.... m

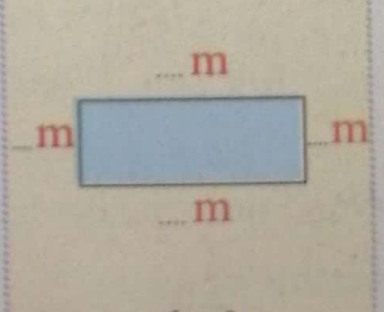
Area : 25 m^2

Perimeter : 20 m



Area : 14 cm^2

Perimeter : .... cm



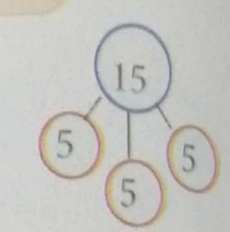
Area : 6 m^2

Perimeter : 10 m

Activity 1 3 friends share 15 pieces of biscuits equally. How many pieces each of take?

Divide the bar model into 3 parts equally, then divide 15 on the parts equally.

15		
5	5	5

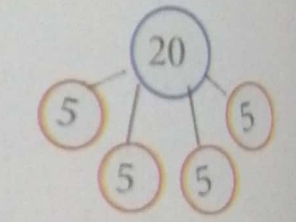


The share of each = 15 ÷ number of parts
= 15 ÷ 3 = 5 pieces

Practice 2 I have 20 figs to divide equally between 4 plate. How many figs should I put in each plate?

Divide the rectangle into 4 parts equally, then divide 20 on the parts equally.

20			
5	......	......	......

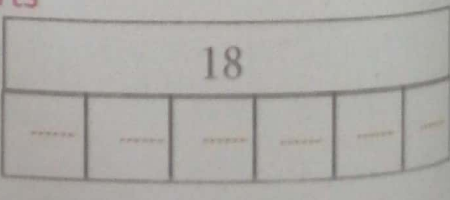


Number of figs = 20 ÷ number of parts
= 20 ÷ 4 = ... figs

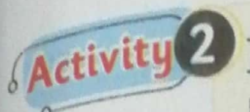
Practice 3 Omar has 18 pieces of candy. He wants to give the same amount to each of his 6 friends. How many pieces would each friend get?

Divide the rectangle to ...... parts equally or draw ......, then divide 18 on the parts equally.

Number of pieces = 18 ÷ number of parts
= 18 ÷ 6 = ... pieces

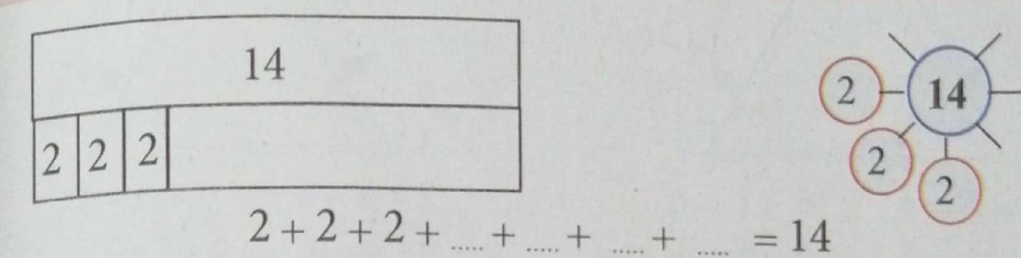


18					
......	......	......	......	......	......



I have 14 figs. I want to give 2 figs to each friends. How many friends can I give ?

Divide the bar model to equal parts each part contain 2 pieces.



$2 + 2 + 2 + \dots + \dots + \dots + \dots = 14$

14 ÷ number of friends = 2 figs

Number of parts = number of friends = 7

Practice 4 There are 28 crayons in the classroom that need to be placed in 4 cups. Each cup must have the same number of crayons.
How many crayons will be in each cup?

Divide the rectangle to 4 parts equally , then divide 28 on the parts equally.

28			
7	......	......	......

28 ÷ number of cups = 7 crayon

Number of parts = number of cups = ... cup

Practice 5 Diaa has 40 toys he would like to split equally among 5 friends.
How many toys should each friend receive ?

Divide the rectangle to 5 parts equally , then divide 40 on the parts equally.

40	
5	

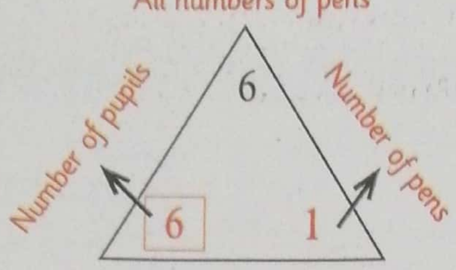
40 ÷ number of friends = 5 toy

Number of parts = number of friends

= .... toy

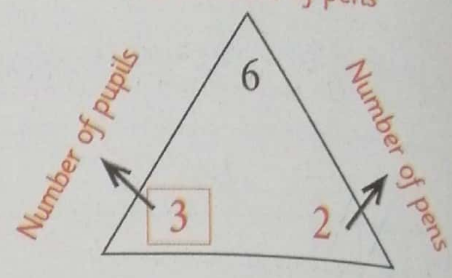


Activity 3 Divide 6 pens on some pupils equally with different way :



$1 \times 6 = 6$ $6 \times 1 = 6$

$6 \div 1 = 6$ $6 \div 6 = 1$

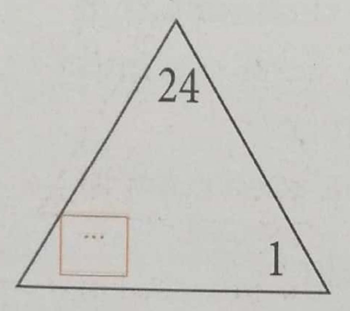


$2 \times 3 = 6$ $3 \times 2 = 6$

$6 \div 2 = 3$ $6 \div 3 = 2$

Practice 6 Divide 24 pieces of biscuits equally with different way as in (a) :

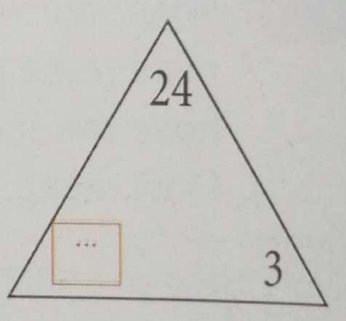
a



$1 \times 24 = 24$ $24 \times 1 = 24$

$24 \div 1 = 24$ $24 \div 24 = 1$

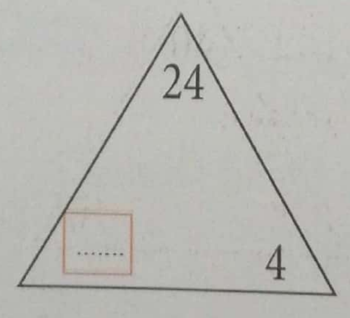
b



$2 \times ... = 24$ $... \times 2 = 24$

$24 \div 2 = ...$ $24 \div ... = 2$

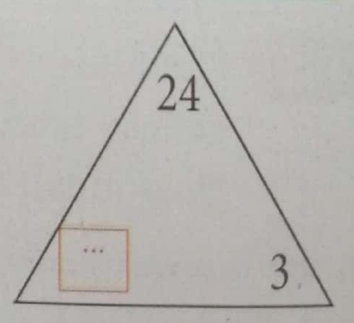
c



$... \times .... = 24$ $.... \times ..... = 24$

$24 \div ... = ...$ $24 \div ... = ...$

d

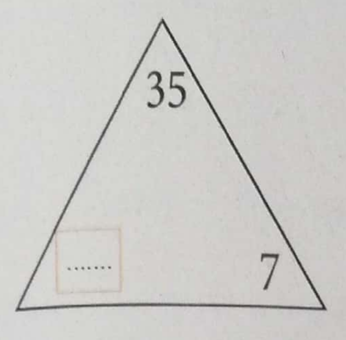


$... \times ... = 24$ $... \times ... = 24$

$24 \div ... = ...$ $24 \div ... = ...$

Practice 7 Find the missing factor and write the equation of the fact family :

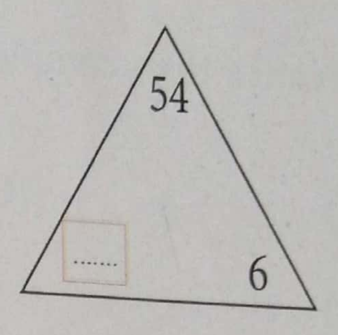
a



$7 \times$ ..... $= 35$ ..... $\times 7 = 35$

$35 \div 7 =$ ... $35 \div$ ... $= 7$

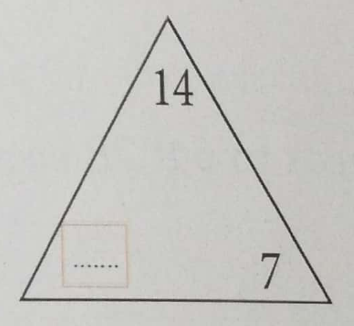
b



$6 \times$ ... $= 54$ ..... $\times 6 = 54$

$54 \div 6 =$ ... $54 \div$ ... $= 6$

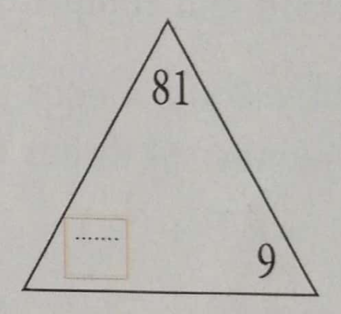
c



... $\times$ ... $= 14$ ... $\times$ ... $= 14$

$14 \div$ ... $=$ ... $14 \div$ ... $=$ ...

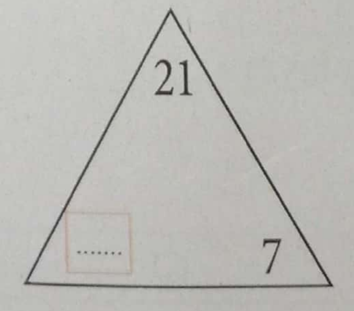
d



... $\times$ ... $= 81$ ... $\times$ ... $= 81$

$81 \div$ ... $=$ ... $81 \div$ ... $=$ ...

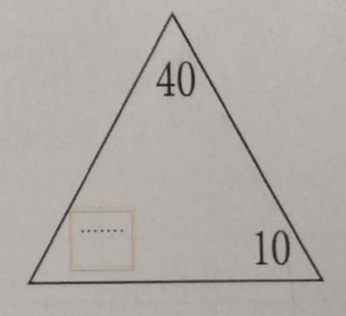
e



... $\times$ ... $= 21$ ... $\times$ ... $= 21$

$21 \div$ ... $=$ ... $21 \div$ ... $=$ ...

f



... $\times$ ... $=$ ... ... $\times$ ... $=$ ...

... $\div$ ... $=$ ... ... $\div$ ... $=$ ...

Self - check on lesson (98 to 100)

1 Notice then complete:

a) 3× .... = 5× .... = 15

b) 48 ÷ .... = 8 = ... × 2

c) 0 = 9× .... = ... × 9

d) 36 = 4 × .... = ... × 4

e) 35 = 5 × .... = ... × 5

f) 63 ÷ .... = 7 = 1 × ....

2 Read and complete:

If Shadia put 4 eggs in one dish, then :
The number of dishes that Shadia needs to put 28 eggs.

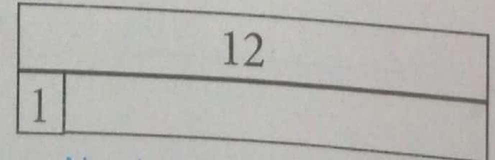
= (28 ÷ ....) = ... dishes

3 A coach has stopped 12 players in different rows.
How many rows in the following cases?

12	
3	

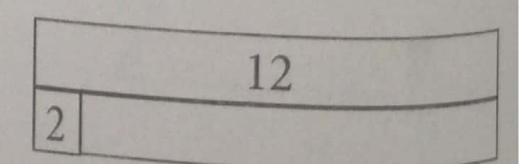
12 ÷ Number of rows = 3 players

Number of rows = ...



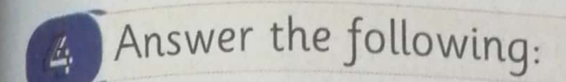
12 ÷ Number of rows = 1 players

Number of rows = ...



12 ÷ Number of rows = 2 players

Number of rows = ...



4 Answer the following:

a $(4 \times 9) + 2 = (9 \times 4) + 2 = 36 + ... = ...$

b $(5 \times 7) - 5 = (7 \times .....) - 5 = ... - ..... = 30$

c $36 - (3 \times 9) = 36 - (9 \times .....) = ... - 27 = ...$

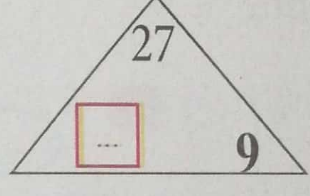
d $(40 \div 5) + 2 = ... + 2 = ...$

e $(19 - 14) \times 4 = 4 \times ..... = ...$

f $(28 \div 4) \times 7 = ... \times 7 = ...$

5 Find the missing factor and write the equation of the fact family:

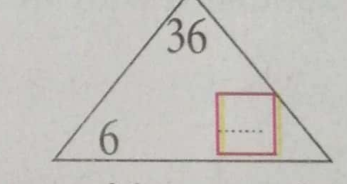
a



$9 \times ... = 27$ $... \times 9 = 27$

$27 \div 9 = ...$ $27 \div ... = 9$

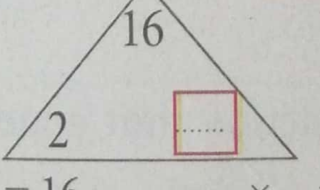
b



$6 \times ... = 36$ $... \times 6 = 36$

$36 \div 6 = ...$ $36 \div ... = 6$

c



$... \times ... = 16$ $... \times ... = 16$

$16 \div ... = ...$ $16 \div ... = ...$

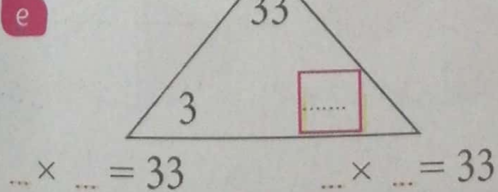
d

72, 8, ...

$... \times ... = 72$ $... \times ... = 72$

$72 \div ... = ...$ $72 \div ... = ...$

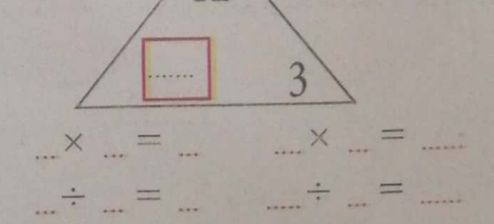
e



$... \times ... = 33$ $... \times ... = 33$

$33 \div ... = ...$ $33 \div ... = ...$

f



$... \times ... = ...$ $... \times ... = ...$

$... \div ... = ...$ $... \div ... = ...$

Self - check  Chapter 4

1 Complete:

a) $\frac{1}{2} + \frac{1}{4} = \frac{2}{4} + \frac{1}{4} =$ ......

b) $\frac{1}{3} - \frac{2}{15} =$ ...... $- \frac{2}{15} =$ ......

c) $\frac{1}{2} - \frac{5}{16} =$ ...... $- \frac{5}{16} =$ ......

d) $\frac{1}{3} + \frac{2}{9} =$ ...... $+ \frac{2}{9} =$ ......

e) $\frac{1}{2} - \frac{3}{14} =$ ...... $- \frac{3}{14} =$ ......

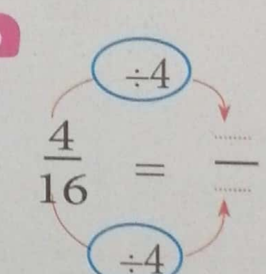
f) $\frac{3}{4} - \frac{7}{12} =$ ...... $- \frac{7}{12} =$ ......

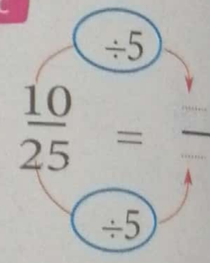
g) $\frac{1}{2} + \frac{1}{6} =$ ...... $+ \frac{1}{6} =$ ......

h) $\frac{3}{4} - \frac{11}{20} =$ ...... $- \frac{11}{20} =$ ......

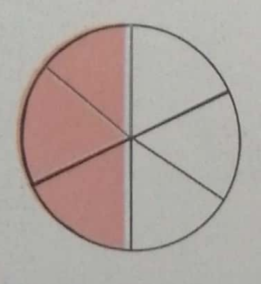
2 Complete with the equivalent fraction:

a) $\frac{6}{9} = \frac{\dots}{\dots}$ (÷3, ÷3)

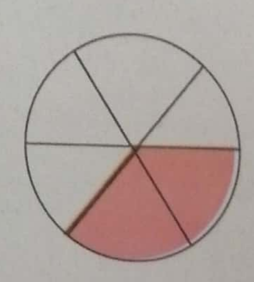
b) 

c) 

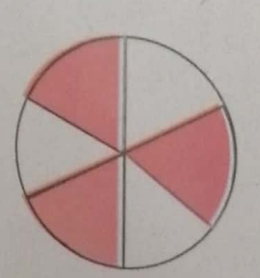
3 Write the fraction then circle the fraction that equal to $\frac{1}{2}$:



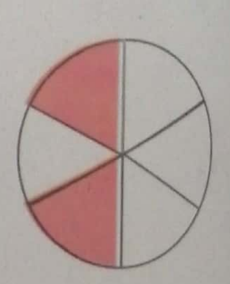
$\frac{\dots}{\dots}$



$\frac{\dots}{\dots}$



$\frac{\dots}{\dots}$



$\frac{\dots}{\dots}$

4 I have 24 oranges. Each person will get 6 oranges. How many people can I feed?

Divide the rectangle to 6 parts equally then divide 24 on the parts equally.

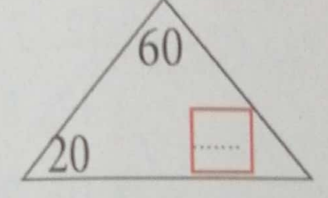
24					
4	......	......	......	......	......

Number of person = 24 ÷ number of oranges

= 24 ÷ 6 = ... person

5 Find the missing factor then complete the facts :

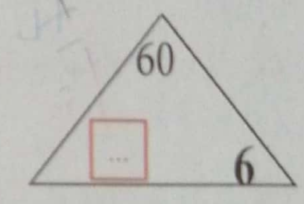
a



3 × 20 = 60 ....× 3 = 60

60 ÷ 3 = ... 60 ÷ ... = 3

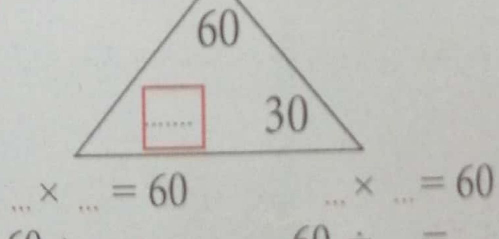
b



6 × ... = 60 .... × 6 = 60

60 ÷ 6 = ... 60 ÷ ... = 6

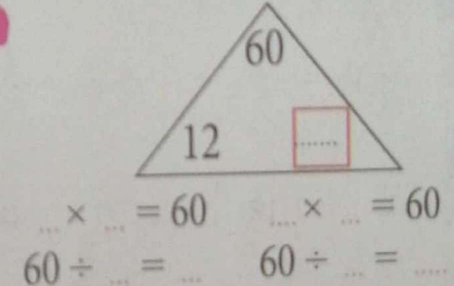
c



... × ... = 60 ... × ... = 60

60 ÷ ... = ... 60 ÷ ... = ...

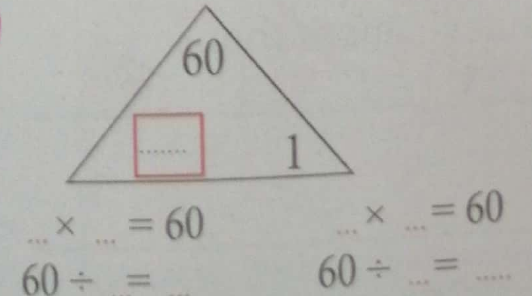
d



... × ... = 60 ... × ... = 60

60 ÷ ... = ... 60 ÷ ... = ...

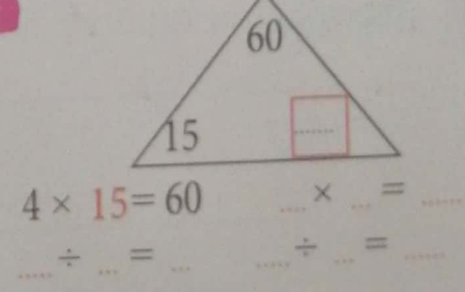
e



... × ... = 60 ... × ... = 60

60 ÷ ... = ... 60 ÷ ... = ...

f



4 × 15 = 60 .... × ... = ...

..... ÷ ... = ... ÷ ... = ...

Self - check 2 On (the previous chapters)

1 Choose the correct answer:

a) $\frac{3}{7}$ .... $\frac{3}{10}$ (>, <, =)

b) $1 - \frac{4}{5} = \frac{....}{....}$ ($\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$, $\frac{4}{5}$)

c) No. minutes in quarter an hour =...... minutes (20, 30, 15, 60)

d) The perimeter of a square whose side length 100 cm =........ cm (10, 100, 400, 200)

e) The area of rectangle whose dimensions 3 m , 4 m = ... m^2 (12, 7, 14, 24)

f) $(4 \times 3) \times$ .... $= 60$ (12, 5, 7, 10)

g) $9 \times 21 = 9 \times ($ .... $+ 1)$ (10, 20, 3, 7)

h) Read the clock :........  (3 : 08, 8 : 20, 3 : 42, 4 : 45)

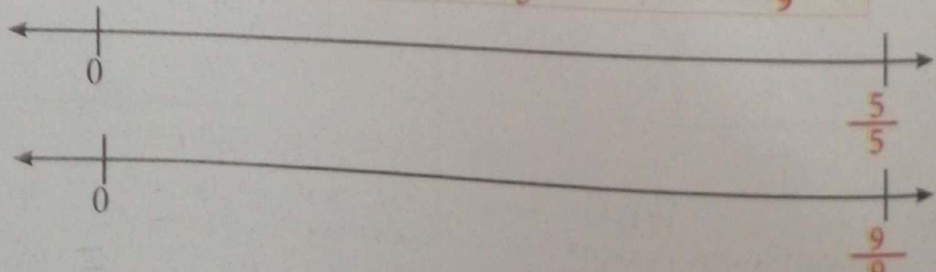
2 Complete:

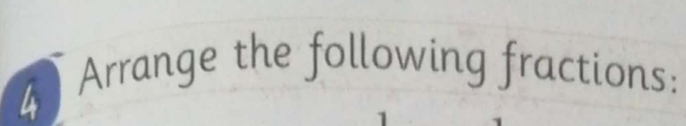
a) $\frac{3}{5} + \frac{1}{5} = \frac{....}{....}$ So $\frac{4}{5} - \frac{....}{....} = \frac{....}{....}$, $\frac{4}{5} - \frac{....}{....} = \frac{....}{....}$

b) $\frac{2}{9} + \frac{3}{9} = \frac{....}{....}$ So $\frac{5}{9} - \frac{....}{....} = \frac{....}{....}$, $\frac{5}{9} - \frac{....}{....} = \frac{....}{....}$

c) $1 - \frac{7}{8} = \frac{....}{....}$ So $1 - \frac{....}{....} = \frac{....}{....}$, $\frac{7}{8} + \frac{....}{....} = 1$

3 Show using number line that $\frac{3}{5}$ more than $\frac{3}{9}$:





a Ascendingly : $\frac{1}{3}$, $\frac{1}{7}$, $\frac{1}{10}$, $\frac{1}{12}$, $\frac{1}{2}$

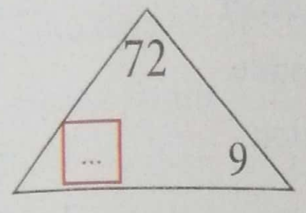
The order : .... , ... , ... , ... , ...

b Descendingly : $\frac{3}{7}$, 1 , $\frac{3}{5}$, $\frac{3}{8}$, $\frac{3}{4}$

The order : .... , ... , ... , ... , ...

5 Find the missing factor then complete the fact family:

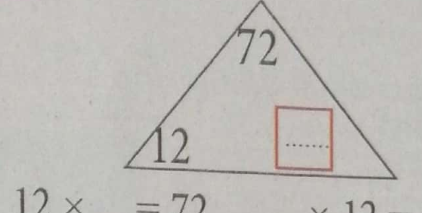
a



$9 \times 8 = 72$ .... $\times 9 = 72$

$72 \div 9 =$ ... $72 \div$ ... $= 9$

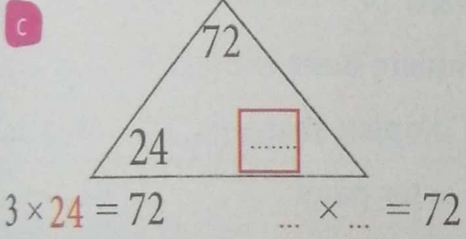
b



$12 \times$ ... $= 72$ .... $\times 12 = 72$

$72 \div 12 =$ ... $72 \div$ ... $= 12$

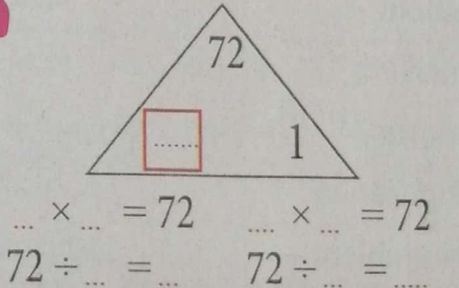
c



$3 \times 24 = 72$ ... $\times$ ... $= 72$

$72 \div$ ... $=$ ... $72 \div$ ... $=$ .....

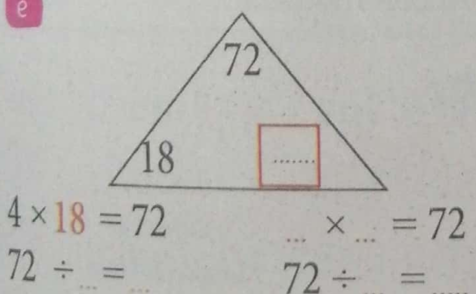
d



... $\times$ ... $= 72$ ... $\times$ ... $= 72$

$72 \div$ ... $=$ ... $72 \div$ ... $=$ .....

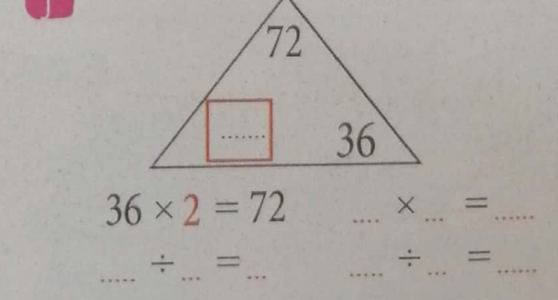
e



$4 \times 18 = 72$ ... $\times$ ... $= 72$

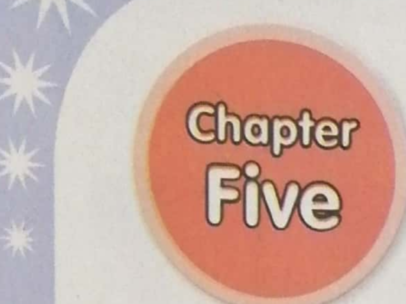
$72 \div$ ... $=$ ... $72 \div$ ... $=$ .....

f



$36 \times 2 = 72$ .... $\times$ ... $=$ .....

..... $\div$ ... $=$ ... . $\div$ ... $=$ .....





Vocabulary

The lamp post	عمود الإنارة
Fluency	الطلاقة
Dividend	المقسوم
Divisor	المقسوم عليه
Fact family	عائلة الحقائق
Factor	عامل
Quotient	ناتج القسمة
Product	ناتج الضرب
Equation	معادلة
Symbol	رمز
Unknown	غير معروف
Multiplication	الضرب
Story problem	سؤال لفظي
Fluent	طلاقة
Rope	حبل

Bale	حزمة
Hay	حشائش
Zookeeper	حارس الحديقة
Crocodile	تمساح
Division	القسمة
Area	مساحة
Perimeter	محيط
Average	متوسط
Taro	قلقاس
Square units	متر مربع
Complex shape	شكل مركب
Factor pairs	زوج من العوامل
Constraints	القيود
Dimensions	أبعاد
Accommodates	يستوعب

Content

- Bakkar Self-Check
- Bakkar Exercise on lessons
- Exercise inspired from Math Journal
- Exercise inspired from Discover

Lesson (101 , 102)

Multiplication facts strategies



Activity 1 Remember :

Estimation length

Centimetre (cm) Centimetre (cm) use to measure short length .

Ex : Ruler of length 10 cm .

Meter (m) The meter (m) used to measure long length

Ex : The height of building 10 m ,

House room width 3 m , The height of the lamp post is 6 m

Millimetre

Millimetre (mm)

The millimetre (mm) used to measure very short lengths

Ex : The thickness of pencil 7 mm.

1 Centimetre = 10 mm or 1 cm = 10 mm

2 Centimetre = 20 mm , 5 cm = 50 mm

Practice 1 Complete the following :

a) 300 cm + ... m = 5 m

b) 4 m + ... m = 7 m

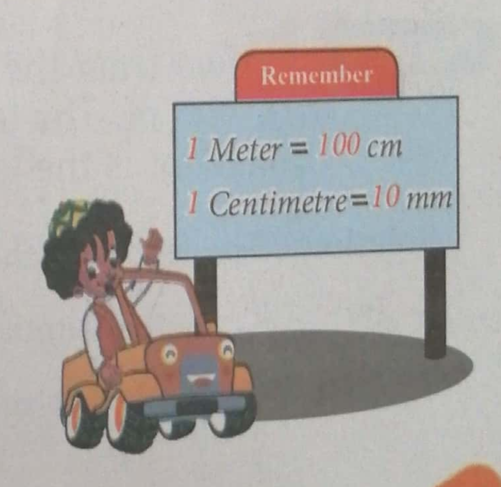
c) 70 cm - .... cm = 60 cm

d) 2 cm + ... mm = 8 cm

e) 10 mm + ... mm = 40 mm

f) 60 cm - .... cm = 30 cm

g) 8 m - .... cm = 500 cm



Practice 2 Complete as the EX :

Ex 210 cm = 200 cm + 10 cm = 2 m + 10 cm

a) 517 cm = ... cm + ... cm = ... m + ... cm

b) 318 cm = ... cm + ... cm = ... m + ... cm

c) 690 cm = ... cm + ... cm = ... m + ... cm

Practice 3 Ahmed is 183 cm long . Mohamed is increase Ahmed by 4 cm. What is the length of Ahmed?

Solution Mohamed length = Ahmed length + 4 cm

= .... cm + ... cm = ... cm .



Practice 4 The length of two pieces of cloth 23 m, the length of one of them is 14 m. What is the length of the other piece ?

Solution

The length of the other pieces = ... - the length of the first

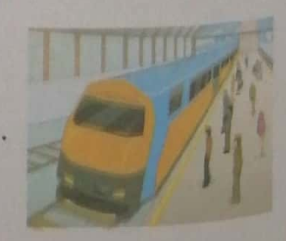
= .... m - .... m = ... m.

Practice 5 Two train the difference between their lengths 100 m. The length of one of them is 150 m . What is the length of the short train ?

Solution The length of the long - the length of the short = ...

.... - the length of the short = ...

Then : the length of the short = ... m .



Multiplication facts strategy

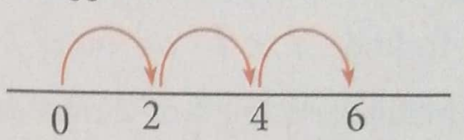
First (2s Count by 2s) : Skip count by 2

- Know that the product is even number or add the second factor to it self (multiple) .

To find : 3×2 by skip count by strategy 2

Skip 2 three times as 2, 4 , 6

$3 \times 2 = 2$ + ... + ... = ...



or $3 \times 2 = 3$ + ... = ...

Second (3s Double and add one more group) :

Find the multiples and add another sets .

To find : 6×3 we know $6 \times 2 = 12$ then add 6 to get 18

Then : $6 \times 3 = 6 \times (2 +$ ....)

$= (6 \times 2) + (6 \times$ ....) = ... + ... = ...

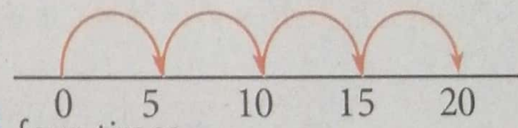
Third (4s Double the Double) :

To find: 8×4 we know $8 \times 2 = 16$ then add 16 to 16 to get 32

Then : $8 \times 4 = 8 \times (2 +$ ....) = (8 × ....) + (8 × ....)

= .... + ... = ...

Fourth (5s Count by 5s) :



To find : 4×5 skip count by 5 four times :

Then : $4 \times 5 = 20$

or $4 \times 5 = 4 \times (3 +$ ....) = (4 × ....) + (4 × ....) = ... + ... = 20

or $4 \times 5 = 4 \times (4 +$ ....) = (4 × ....) + (4 × ....) = ... + ... = ...

Fifth (6s Multiply by 5 and add one group) :

To find : 7×6 we know $7 \times 5 = 35$ then add 7 to get 42

Then : $7 \times 6 = 7 \times (5 + 1) = (7 \times \dots) + (7 \times \dots)$

$= \dots + \dots = \dots$

Sixth (7s Multiply by 5 and 2 then add the products) :

To find : 7×7 we know $7 \times 5 = 35$ and $7 \times 2 = 14$

Multiplying by 5 or 2 then add the products

Then : $7 \times 7 = 7 \times (5 + 2) = (7 \times \dots) + (7 \times \dots)$

$= \dots + \dots = \dots$

Seventh (8s Double 4s facts) :

To find : 6×8 we know $6 \times 4 = 24$ and $24 + 24 = 48$

(If you're not sure about the multiples of facts of number 4 ,
Start with multiples of facts of number 2).

Then : $6 \times 8 = 6 \times (4 + 4) = (6 \times \dots) + (6 \times \dots)$

$= \dots + \dots = \dots$

Eighth (9 s Finger trick from earlier lesson) :

To find : 9×7 we know $9 \times 5 = 45$ and $9 \times 2 = 18$

$9 \times 7 = 9 \times (5 + 2) = (9 \times \dots) + (9 \times \dots)$

$= \dots + \dots = \dots$

Ninth (10s Add a 0 after the other factor) :

Ex $10 \times 3 = 30$, $10 \times 29 = \dots$

$10 \times 18 = 180$, $10 \times 340 = \dots$

$10 \times 125 = \dots$, $10 \times 600 = 6000$

Tenth (11s Multiply by 10 then add one group) :

To find :

11 × 3 multiplying 10 by 3 then add 1 × 3 then the product = 33

Then : 11 × 3 = (10 + 1) × 3 = (...... × 3) + (...... × 3) = ... + ... = ...

Eleventh (12s Tens facts plus 2s facts) :

To find :

12 × 4 multiply 10 × 4 then add 2 × 4 then the products = 48

Then : 12 × 4 = (10 + 2) × 4 = (...... × 4) + (...... × 4) = ... + ... = ...

Activities from Math Journal

Activity • Join by the missing number : Challenge : unknown numbers :

I have zero in my ones place ,
one of my factors is 4 ,
I am double of 10 .

50
4
20

I have 6 different factors,
I have 1 in the tens place,
The number 6 is one of my factors .

36
180
12

If you double the tens digit, you will get the ones digit
I'm the product of same two factors together,
one of my factor is equal to 12 .

36
18
42

Self - check on lesson (61, 62)

1 Express the following lengths in centimetres as the Ex :

Ex 4 meter 74 cm = 400 + 74 cm = 474 cm

a 5 meter , 20 cm = ... cm + ... cm = ... cm

b 2 meter , 17 cm = ... cm + ... cm = ... cm

c 9 meter , 5 cm = ... cm + ... cm = ... cm

2 Express the following lengths in centimetres as the Ex :

Ex 30 mm + 7 cm = 3 cm + 7 cm = 10 cm

a 70 mm + 10 cm = ... cm + ... cm = ... cm

b 10 mm + 5 cm = ... cm + ... cm = ... cm

c 50 mm - 3 cm = ... cm - .... cm = ... cm

3 Complete the following :

a $9 \times 4 = 9 + 9 + ... + ... = ...$

or $9 \times 4 = 9 \times (2 + ...) = (9 \times ......) + (9 \times ......) = ... + ... = ...$

or $9 \times 4 = 9 \times (3 + ...) = (9 \times ......) + (9 \times ......) = ... + ... = ...$

b $3 \times 5 = 3 + 3 + ... + ... + ... = ...$

or $3 \times 5 = 3 \times (3 + ...) = (3 \times ......) + (3 \times ......) = 9 + ... = ...$

or $3 \times 5 = 3 \times (4 + ...) = (3 \times ......) + (3 \times ......) = ... + ... = ...$

c $9 \times 6 = 9 \times (5 + \ldots) = (9 \times \ldots) + (9 \times \ldots) = \ldots + \ldots = \ldots$

or $9 \times 6 = 9 \times (3 + \ldots) = (9 \times \ldots) + (9 \times \ldots) = \ldots + \ldots = \ldots$

or $9 \times 6 = 9 \times (4 + \ldots) = (9 \times \ldots) + (9 \times \ldots) = \ldots + \ldots = \ldots$

---

d $11 \times 7 = 11 \times (5 + \ldots) = (11 \times \ldots) + (11 \times \ldots) = \ldots + \ldots = \ldots$

or $11 \times 7 = 11 \times (6 + \ldots) = (11 \times \ldots) + (11 \times \ldots) = \ldots + \ldots = \ldots$

or $11 \times 7 = 11 \times (4 + \ldots) = (11 \times \ldots) + (11 \times \ldots) = \ldots + \ldots = \ldots$

---

e $9 \times 8 = 9 \times (5 + \ldots) = (9 \times \ldots) + (9 \times \ldots) = \ldots + \ldots = \ldots$

or $9 \times 8 = 9 \times (6 + \ldots) = (9 \times \ldots) + (9 \times \ldots) = \ldots + \ldots = \ldots$

or $9 \times 8 = 9 \times (4 + \ldots) = (9 \times \ldots) + (9 \times \ldots) = \ldots + \ldots = \ldots$

---

f $5 \times 11 = 5 \times (10 + \ldots) = (5 \times \ldots) + (5 \times \ldots) = \ldots + \ldots = \ldots$

or $5 \times 11 = 5 \times (5 + \ldots) = (5 \times \ldots) + (5 \times \ldots) = \ldots + \ldots = \ldots$

or $5 \times 11 = 5 \times (8 + \ldots) = (5 \times \ldots) + (5 \times \ldots) = \ldots + \ldots = \ldots$

---

g $6 \times 12 = 6 \times (7 + \ldots) = (6 \times \ldots) + (6 \times \ldots) = \ldots + \ldots = \ldots$

or $6 \times 12 = 6 \times (10 + \ldots) = (6 \times \ldots) + (6 \times \ldots) = \ldots + \ldots = \ldots$

or $6 \times 12 = 6 \times (6 + \ldots) = (6 \times \ldots) + (6 \times \ldots) = \ldots + \ldots = \ldots$

---

h $8 \times 17 = 8 \times (\ldots + 7) = (8 \times \ldots) + (8 \times 7) = \ldots + \ldots = \ldots$

or $8 \times 17 = 8 \times (8 + \ldots) = (8 \times \ldots) + (8 \times \ldots) = \ldots + \ldots = \ldots$

or $8 \times 17 = 8 \times (5 + \ldots) = (8 \times \ldots) + (8 \times \ldots) = \ldots + \ldots = \ldots$

Activities from Math Journal

Activity 1 Solve the following multiplication :

Hint Start by solving the facts you are fluent in first

$9 \times 7 =$	$3 \times 1 =$	$9 \times 3 =$	$8 \times 5 =$ ......
$12 \times 2 =$	$11 \times 7 =$	$3 \times 3 =$	$4 \times 5 =$ ......
$8 \times 2 =$	$10 \times 10 =$	$10 \times 3 =$	$10 \times 5 =$ ......
$6 \times 8 =$	$9 \times 5 =$	$5 \times 2 =$	$5 \times 3 =$ ......
$11 \times 3 =$	$9 \times 4 =$	$8 \times 4 =$	$6 \times 6 =$ ......
$8 \times 6 =$	$7 \times 1 =$	$9 \times 8 =$	$10 \times 8 =$ ......
$10 \times 6 =$	$6 \times 2 =$	$7 \times 3 =$	$6 \times 4 =$ ......
$12 \times 1 =$	$4 \times 2 =$	$3 \times 4 =$	$11 \times 5 =$ ......
$8 \times 1 =$	$6 \times 5 =$	$9 \times 5 =$	$4 \times 1 =$ ......
$8 \times 7 =$	$0 \times 12 =$	$1 \times 9 =$	$8 \times 3 =$ ......

Activity 2 Emad and Ezz each have a piece of rope . Emad's rope is 47 cm long . Ezz's rope is 15 cm longer than Emad's .
How long are their ropes all together ?

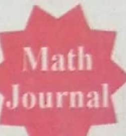
Solution The length of Ezz rope = the length of Emad rope +15 cm
= ...... cm + ... cm = ... cm
The sum of the two pieces = ... + ... = ... cm

Lesson (103 : 105)

Multiplication and division facts



The mass of an apple is 70 grams and the mass of an orange is 130 grams.
If there are 4 apples and 4 oranges with Basma,
What is the total mass of all the fruits?



First strategy 1

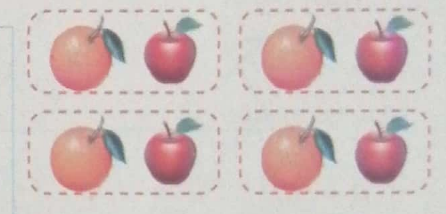


The mass of apples $= 70 + 70 + 70 + 70 = 280$ gm

The mass of orange $= 130 + 130 + 130 + 130 = 520$gm

The mass all fruit = ... + ... = 800 gm

Second strategy 2

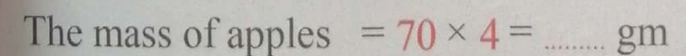


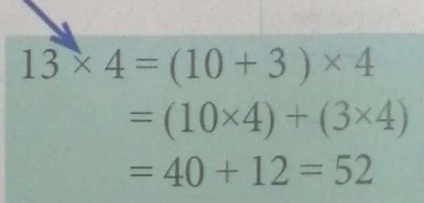
The mass of apple and orange

$= 70 + 130 = 200$ gm

The mass of all fruit $= 200 \times 4 =$ .... gm

Third strategy 3





The mass of apples $= 70 \times 4 =$ .... gm

The mass of orange $= 130 \times 4 = 10 \times (13 \times 4) =$ .... gm

The mass of all fruit = ... + ... = ... gm

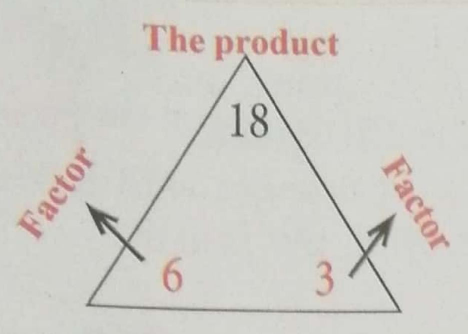
$13 \times 4 = (10 + 3) \times 4$

$= (10 \times 4) + (3 \times 4)$

$= 40 + 12 = 52$

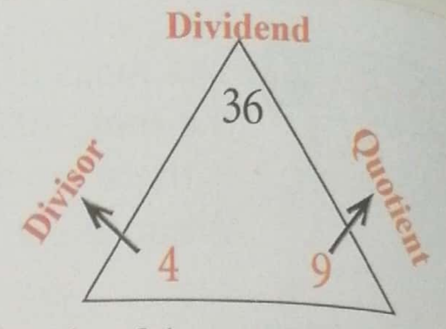


Activity 2 Remember the facts of multiplication and division :



$3 \times 6 = 18$ $6 \times 3 = 18$

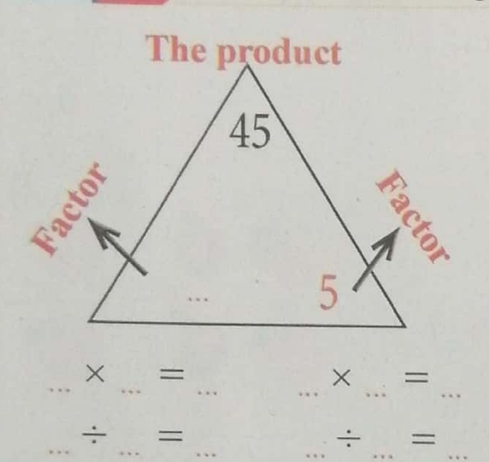
$18 \div 3 = 6$ $18 \div 6 = 3$



$9 \times 4 = 36$ $4 \times 9 = 36$

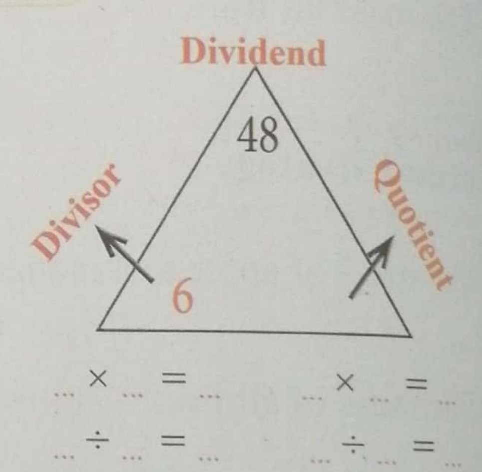
$36 \div 9 = 4$ $36 \div 4 = 9$

Practice 1 Complete the following :



... × ... = ... × ... = ...

... ÷ ... = ... ÷ ... = ...



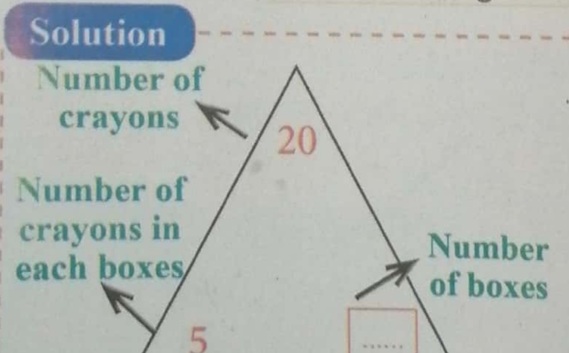
... × ... = ... × ... = ...

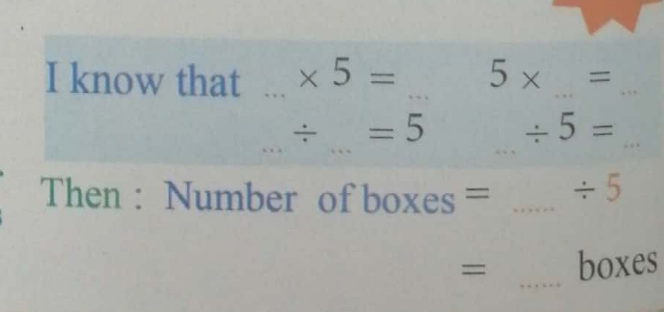
... ÷ ... = ... ÷ ... = ...

Activity 3 I have 20 crayons. I want to put the crayons into boxes . Each box can hold 5 crayons. How many boxes will I need ?

Math Journal

Solution



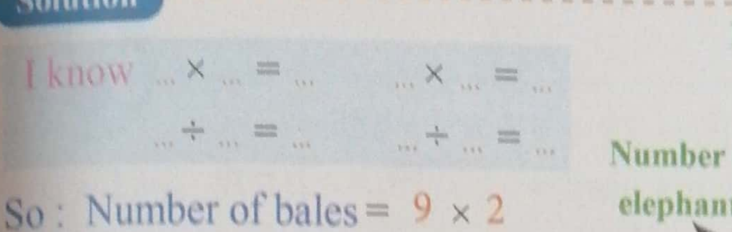


Then : Number of boxes = ... ÷ 5

= ...... boxes

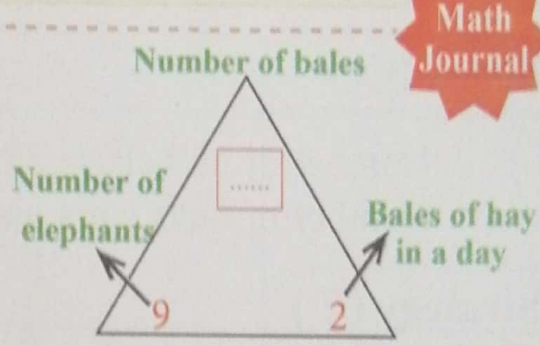
Practice 2 There are 9 elephants at the zoo. Each elephant eats 2 bales of hay in a day. How many bales of hay does the zookeeper need to feed all 9 elephants for one day ?

Solution



So : Number of bales = 9 × 2

= ...... bales.



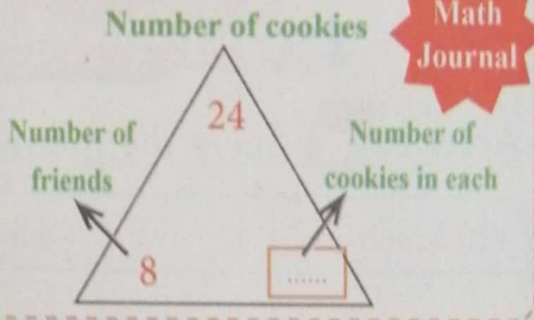
Practice 3 Adam baked 24 cookies. He gives a bag to 8 of his friends. How many cookies are in each bag ?

Solution

I know ... × ... = ... × ... = ...
... ÷ ... = ... ÷ ... = ...

So : Number of cookies = 24 ÷ ......

= ...... cookies.



Practice 4 The zookeeper has 81 fish. Each crocodile at the zoo gets 9 fish. If all the crocodiles get fed, how many crocodiles are there at the zoo ?

Solution

I know ... × ... = ... × ... = ...
... ÷ ... = ... ÷ ... = ...

Number of crocodiles = 81 ÷ ......

= ...... crocodiles.

Math Journal

Number of fish: 81

Number of crocodiles: ......

Number of fish in a day: 9

Practice 5 The coach brought 28 soccer balls in a sack for training and there was 17 other balls on the field if 19 balls were not used in training.
How many balls were used in training?

Strategy (1)



Number of all balls = 28 + 17 = ... ball
Number of balls were used = ... - 19 = ... ball

Strategy (2)

Number of balls were used from 28 = 28 - 19
= ...... ball
Total of balls were used = 17 + 9 = ... ball

Activities from Math Journal

Activity Solve the following multiplication :

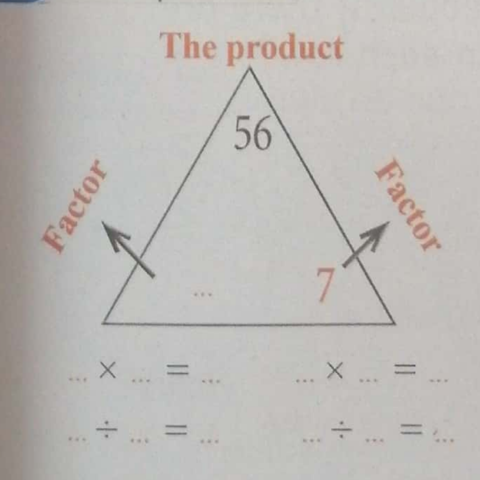
The problem	The story	The solution
$7 \times 4 =$	**Hessin** bought 7 pencils , the price of each pencils 4 pounds. How much does he pays ?	$7 \times 4 = 28$ pounds
$8 \times 9 =$		
$20 \div 5 =$		

Self - check on lesson (103-105)

1 Write story using the following operations then solve it :

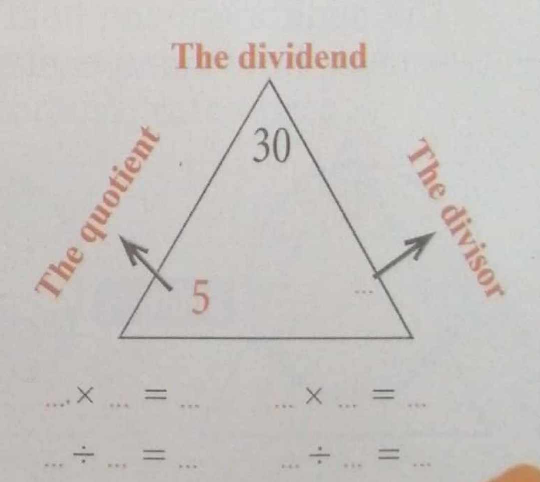
The Problem	The Story	The solution
$6 \times 12 =$		
$36 \div 6 =$		
$12 \div 4 =$		
$24 \div 6 =$		

2 Complete :



... × ... = ... × ... = ...

... ÷ ... = ... ÷ ... = ...

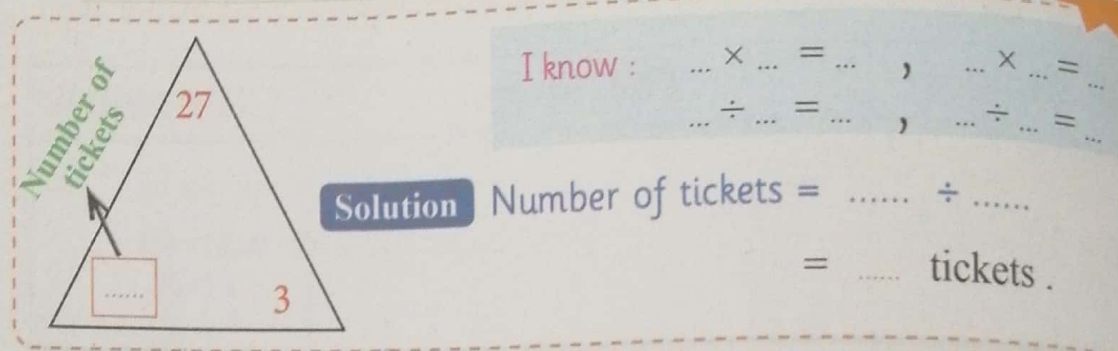


... × ... = ... × ... = ...

... ÷ ... = ... ÷ ... = ...

3 Adam and his friends walked to the zoo. The ticket cost 3 LE each. If Adam and his friends spend 27 LE all together, How many tickets did they buy?

Math Journal

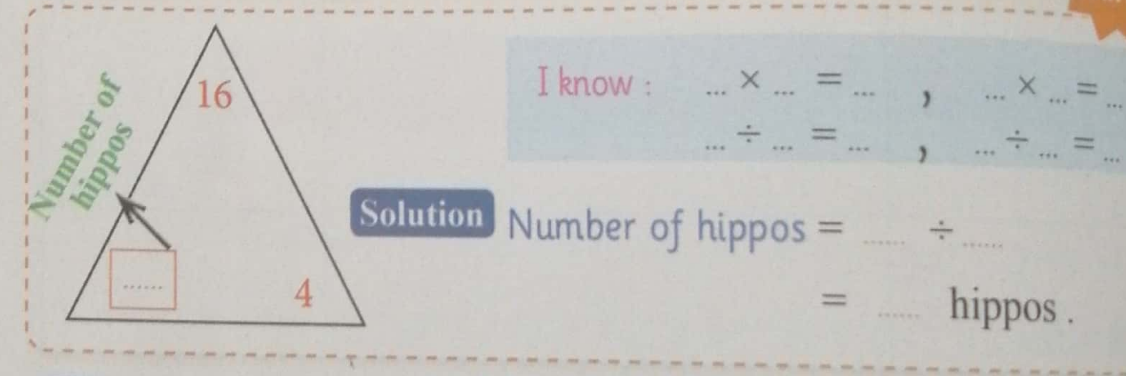


I know : ... × ... = ... , ... × ... = ...
... ÷ ... = ... , ... ÷ ... = ...

Solution Number of tickets = ... ÷ ......
= ...... tickets .

4 At the hippo exhibit in the zoo, Adam and his friends count 16 hippo feet. If every hippo has 4 feet, How many hippos are at the zoo?

Math Journal

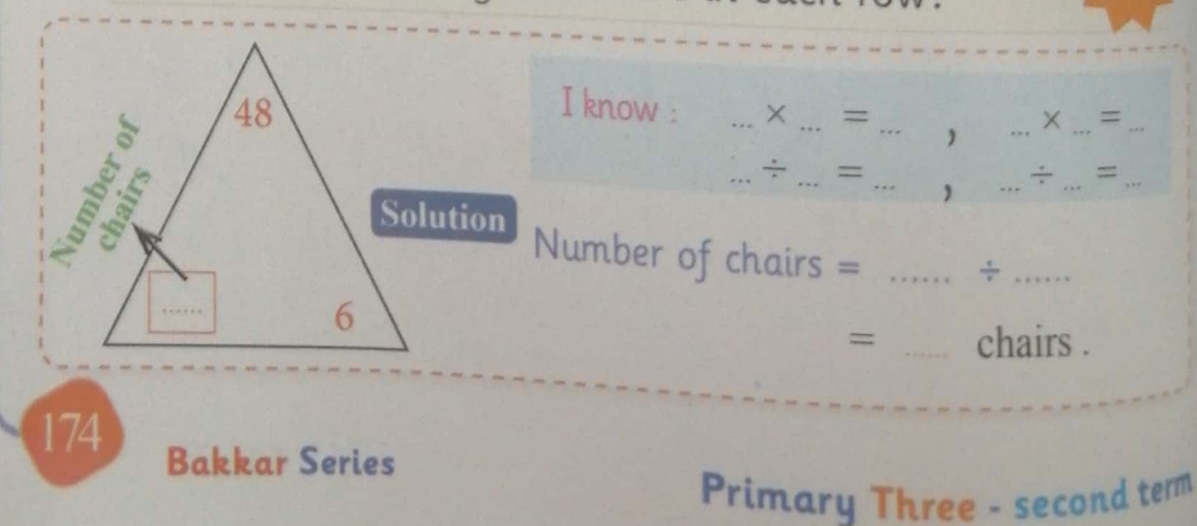


I know : ... × ... = ... , ... × ... = ...
... ÷ ... = ... , ... ÷ ... = ...

Solution Number of hippos = ... ÷ ......
= ...... hippos .

5 The zookeeper is giving a talk at an auditorium about peacocks. Adam and his friends go to listen. The auditorium can hold 48 people. If there are 6 rows, how many chairs are in each row?

Math Journal



I know : ... × ... = ... , ... × ... = ...
... ÷ ... = ... , ... ÷ ... = ...

Solution Number of chairs = ... ÷ ......
= ...... chairs .

Lesson (106 : 110)

Applications on the area and the perimeter

Activity 1 Answer the following :

Hint Start by solving the facts you are fluent in first

$1 \times 4 =$	$5 \times 10 =$	$8 \times 2 =$	$3 \times 7 =$ ....
$3 \times 3 =$	$3 \times 5 =$	$9 \times 3 =$	$8 \times 6 =$ ....
$12 \times 3 =$	$5 \times 1 =$	$4 \times 3 =$	$6 \times 2 =$ ....
$5 \times 8 =$	$9 \times 9 =$	$8 \times 4 =$	$4 \times 4 =$ ....
$10 \times 9 =$	$8 \times 3 =$	$9 \times 4 =$	$11 \times 7 =$ ....
$5 \times 4 =$	$6 \times 6 =$	$2 \times 10 =$	$10 \times 4 =$ ....
$12 \times 2 =$	$10 \times 1 =$	$7 \times 5 =$	$11 \times 4 =$ ....
$7 \times 4 =$	$7 \times 7 =$	$2 \times 9 =$	$6 \times 9 =$ ....
$10 \times 10 =$	$2 \times 6 =$	$5 \times 9 =$	$8 \times 8 =$ ....
$7 \times 8 =$	$11 \times 8 =$	$7 \times 6 =$	$12 \times 5 =$ ....

Practice 1 Draw the hands according to the time :



6 : 17



1 : 53



9 : 38

Activity 2 Omar measured his garden, and it is 2 meters wide and 4 meters long. Draw a model of Omar's garden and label the dimensions.

Find: (a) The area (b) The perimeter

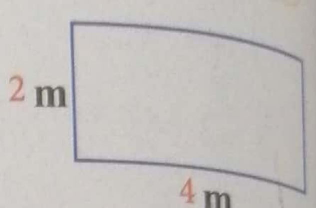
(c) If Omar's garden is triangular shape with same perimeter.

Solution

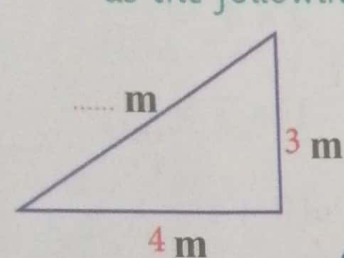
(a) The area = Length × Width = 4 × 2 = 8 m^2

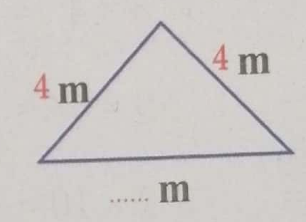
(b) The perimeter = (Length + Width) × 2

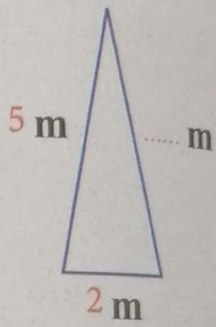
= (4 + 2) × 2 = 12 m



(c) We can draw different triangles with perimeter 12 m as the following :







Solution 3 m , 4 m , 5 m

Activity 3 Gehad draw a square has side lengths of 8 cm

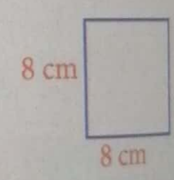
Find: (a) The area (b) The perimeter

(c) Draw an octagon with the same perimeter.

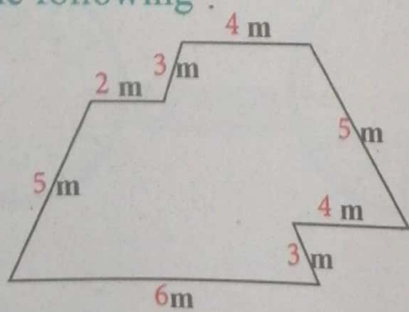
Solution

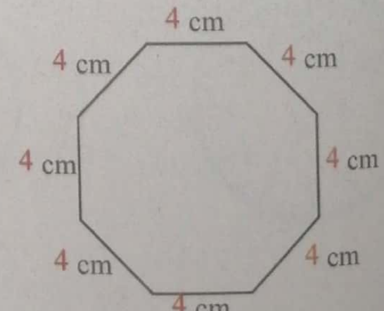
(a) The area = Side length × itself = 8 × 8 = 64 cm^2

(b) The perimeter = Side length × 4 = 8 × 4 = 32 cm

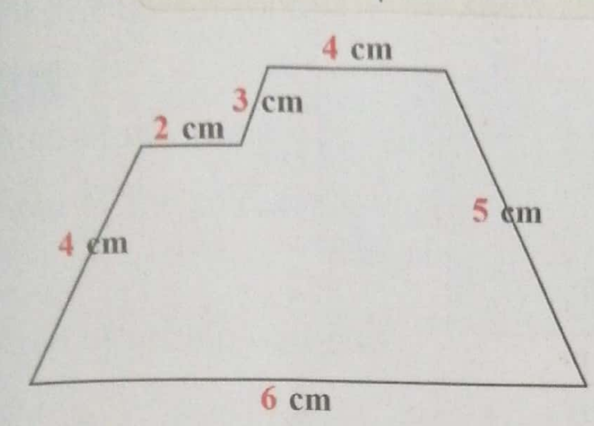


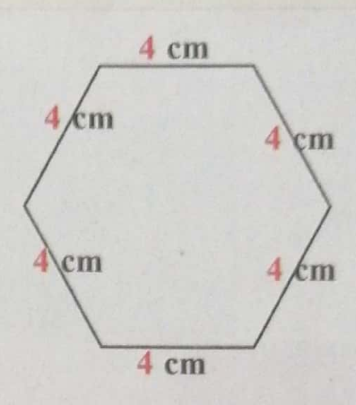
(c) We can draw different Octagon with perimeter 32 cm as the following :



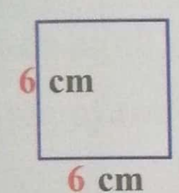


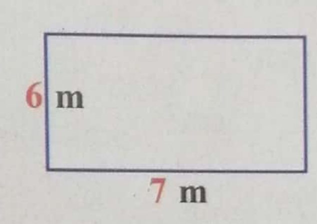
Activity 4 Mohab draw a hexagon with a perimeter of 24 cm. Then draw a quadrilateral has the same perimeter.

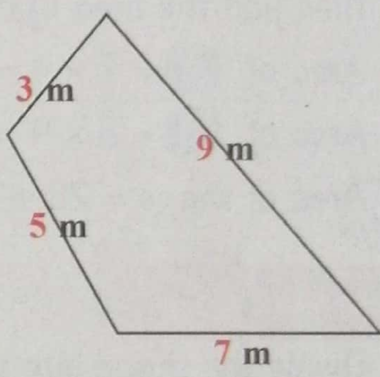




** We can draw more than a quadrilateral has the perimeter 24 as the following :







Practice 2 Find the length of the missing side :

ⓐ The length = Area ÷ width

= .... ÷ .... = ... cm.

The perimeter = (L + W) × 2

=(.... + ...) × 2 = ... cm.

The area 10 cm^2 | 2 cm

ⓑ The area = side length × itself

9 = ... × ....

Then the side length = ... cm

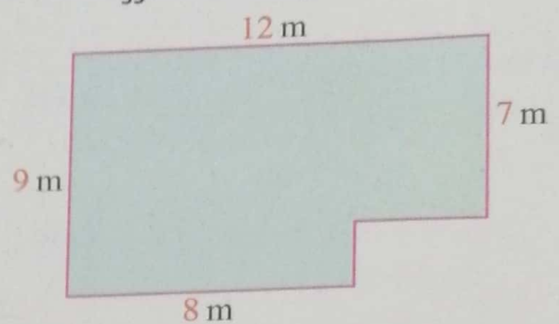
The perimeter = Side length × 4

= .... × 4 = ... cm

The area 9 cm^2 | ... cm

Activities from Math Journal

Activity 1 Find with different ways the area of the coloured part :



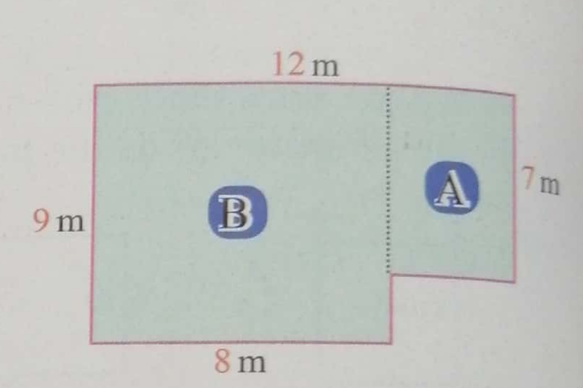
First strategy

Divide the shape into two parts,
then find the area of each part :

Area of (A) = 7 × 4 = ... cm^2

Area of (B) = 8 × 9 = ... cm^2

Area of shape = 28 + 72 = ... cm^2



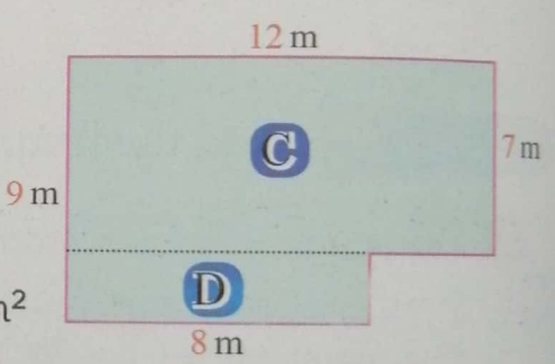
Second strategy

Divide the shape into two parts,
then find the area of each part :

Area of (C) = 7 ×12 = ... cm^2

Area of (D) = 8 × 2 = ... cm^2

Area of shape = ... + ... = ... cm^2



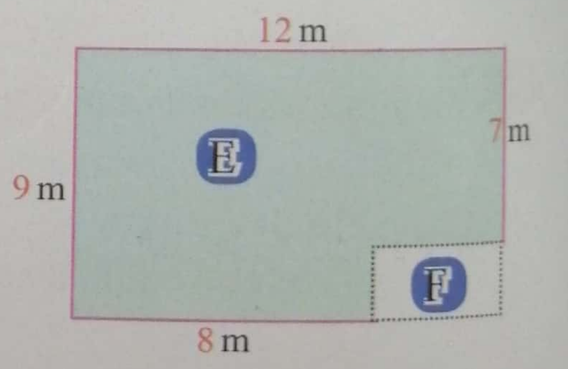
Third strategy

Divide the shape into two parts,
then find the area of each part :

Area of all shape = 9 × 12 =...... cm^2

Area of (F) = 2 × 4 = ... cm^2

Area of (E) = ... - .... = ... cm^2



Self - check on lesson (106 - 110)

1 Find the area of the uncoloured shapes:

Solution

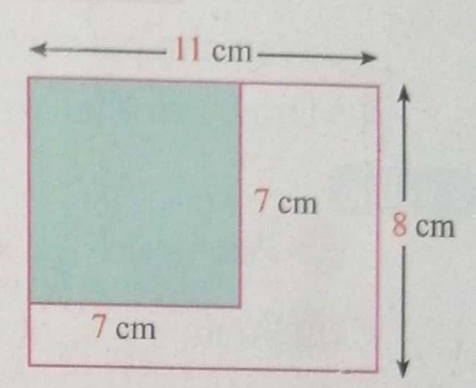
Area of all shape = ... × .... = ... cm^2

Area of the coloured shape

= .... × .... = ... cm^2

Area of uncoloured part

= .... - .... = ... cm^2



2 Find the area of the uncoloured shapes:

Solution

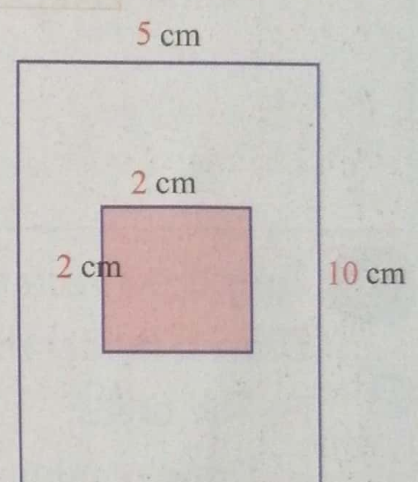
Area of all shape = ... × .... = ... cm^2

Area of the coloured shape

= .... × .... = ... cm^2

Area of uncoloured part

= .... - .... = ... cm^2



3 Find the area of the coloured part :

Solution

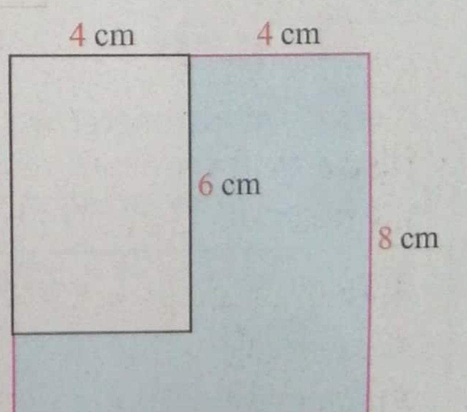
Area of all shape = ... × .... = ... cm^2

Area of uncoloured part

= .... × .... = ... cm^2

Area of the coloured shape

= .... - .... = ... cm^2



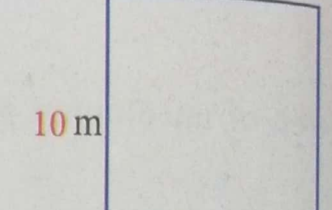
Other strategies can be used to solve previous problems

4 Iyad measure the length of a square shaped piece of land with side 10 m , draw model to this pieces, then answer:

(a) Find the perimeter. (b) Find the area.

(c) Draw another triangular model with same perimeter.

Solution



(a) Perimeter = ... × 4 = ... m^2

(b) Area = ... × .... = ... m^2

(c) The possibilities triangle

First triangle	Second triangle

5 Toka draw rectangle with length 12 cm and 8 cm width. Draw a model then answer:

(a) The area. (b) The perimeter.

(c) Draw regular octagon with the same perimeter.

Solution

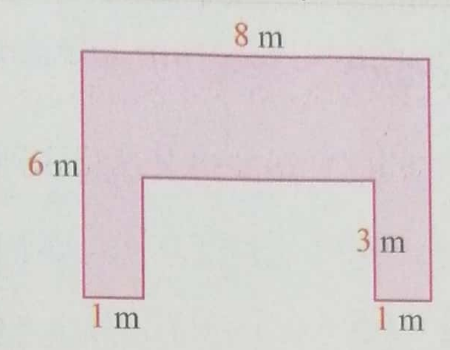
(a) The area = ... × .... = ... m^2

(b) The perimeter = ... × 4 = ... m^2

(c) To draw octagon with perimeter .... it's side will be .... cm

The regular octagon

6 Find the area of the following shape with different ways:



First strategy

Divide the shape into 3 parts,

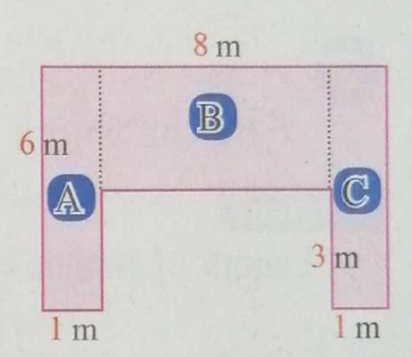
then find the area of each part :

Area of **A** = ... × .... = ... cm^2

Area of **B** = ... × .... = ... cm^2

Area of **C** = ... × .... = ... cm^2

Area of shape = ... + ... +.......... = ... cm^2



Second strategy

Divide the shape into 3 parts,

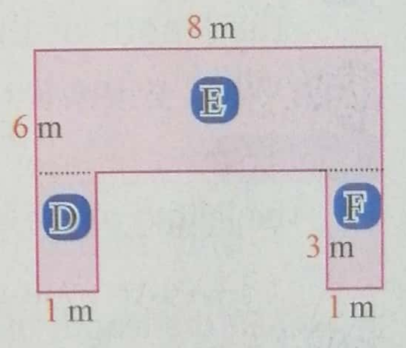
then find the area of each part :

Area of **D** = ... × .... = ... cm^2

Area of **E** = ... × .... = ... cm^2

Area of **F** = ... × .... = ... cm^2

Area of shape = ... + ... +.......... = ... cm^2



Third strategy

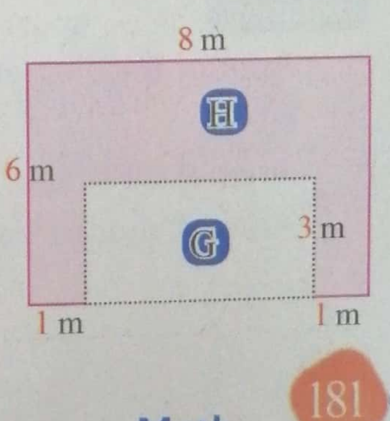
Divide the shape into 3 parts then,

Find the area of each part:

Area of all shape = ... × .... = ... cm^2

Area of **G** = ... × .... = ... cm^2

Area of **H** = ... - .... = ... cm^2





Self - check 1 Chapter 5

1 Find the product :

a) 9 × 14 = 9 × (10 + ...) = (9 × ......) + (9 × ......) = ... + ... = ...

b) 6 × 13 = 6 × (6 + ...) = (6 × ......) + (6 × ......) = ... + ... = ...

c) 12 × 11 = 12 × (5 + ...) = (12 × ......) + (12 × ......) = ... + ... = ...

2 Hanin is 145 cm long, Habiba is 14 cm more than Hanin. Find the length of Habiba.

Solution

Length of Habiba = length of .... + ... cm

= ...... cm + ... cm = ... cm

3 Two Trucks the difference between their lengths 7 m the length of the longer is 12 m .
What is the length of the short Truck?

Solution

The length of the longer - the length of the shorter = ...

.... - the length of the shorter = ...

Then the length of the short = ... m

4 Find the area of the coloured part:

Solution

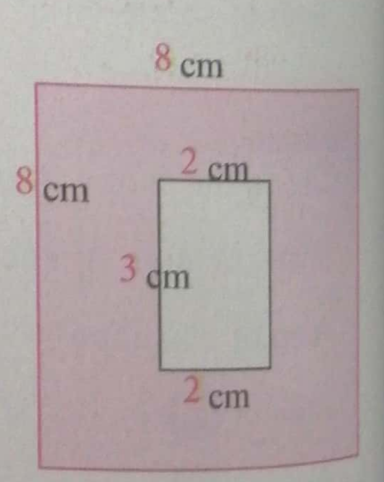
Area of uncoloured shape

= ...... × ...... = ... cm^2

Area of all shape = ... × ...... = ... cm^2

Area of shaded part = ... - ....

= .... cm^2



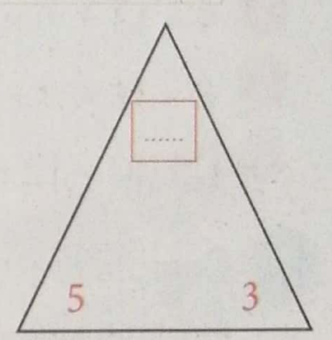
Scanned with CamScanner

5 My grandmother bought 3 taro seeds, each one for 5 pounds. How much did my grandmother pay for the whole taro?



We know ... × ... = ... , ... × ... = ...
... ÷ ... = ... , ... ÷ ... = ...

Then: the price of all taros = ... × ......
= ...... pound .

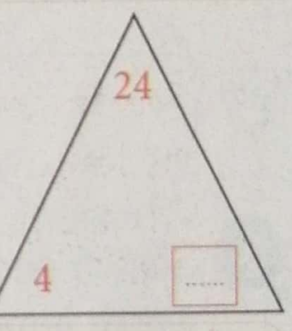


6 Amr and his friends counted 24 feet to a group of goats at grandfathers farm. If every goat has 4 feet.
How many goats did they see on the farm ?

Solution

We know ... × ... = ... , ... × ... = ...
... ÷ ... = ... , ... ÷ ... = ...

Then: the number of all goats = ... ÷ ......
= ...... goat .



7 The average mass of a strawberry is 50 grams, and the average mass of a pepper is 120 grams. If Kenzy has 5 strawberries and 5 peppers, what is the total mass with her? (Use the strategy as your preference)

Solution

....

....

....

....



Self - check 2 On (the previous chapters)

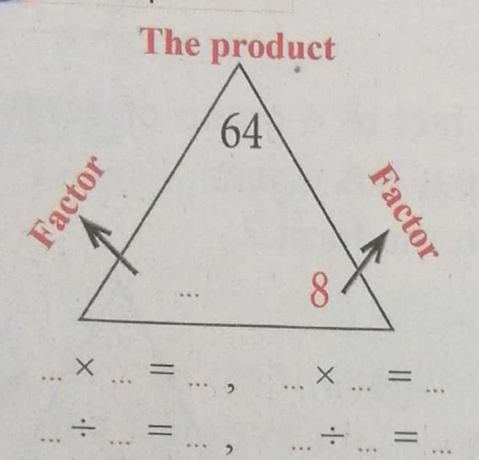
1 Complete :

(a) $9 \times 13 = 9 \times (10 + ...) = (9 \times ....) + (9 \times ....) = ... + ... = ...$

(b) $8 \times 11 = 8 \times (5 + ...) = (8 \times ....) + (8 \times ....) = ... + ... = ...$

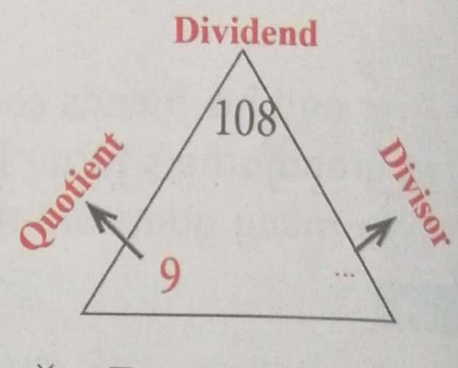
(c) $12 \times 12 = 12 \times (6 + ...) = (12 \times ....) + (12 \times ....) = ... + ... = ...$

2 Complete :



... × ... = ... , ... × ... = ...

... ÷ ... = ... , ... ÷ ... = ...



... × ... = ... , ... × ... = ...

... ÷ ... = ... , ... ÷ ... = ...

3 Samah and her friends went to the training room to watch a match basketball. The hall accommodates 60 person. If there are 5 rows, how many chairs are in each row ?

Solution

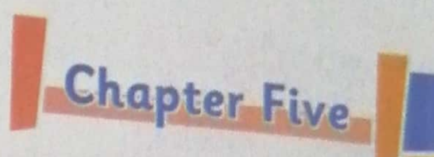
We know ... × ... = ... , ... × ... = ...

... ÷ ... = ... , ... ÷ ... = ...

Then : the number of chairs = ... ÷ .....

= ..... chair .

Number of people
60
Number of rows
Number of chairs
5
......

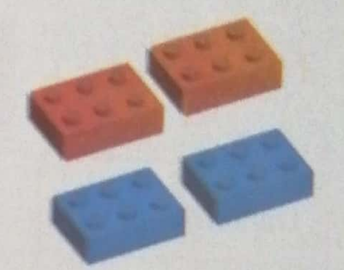


4 The teacher brought 36 cubes in a bag to make a house and he was there another 18 cubes in the classroom and didn't use the 20 cubes in the house ? How many cubes were used in the composition of the house ?

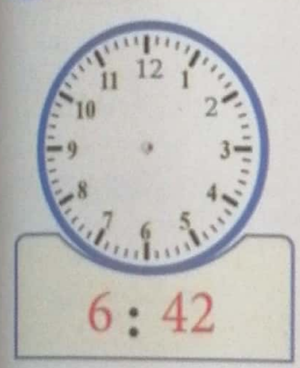
Solution ....

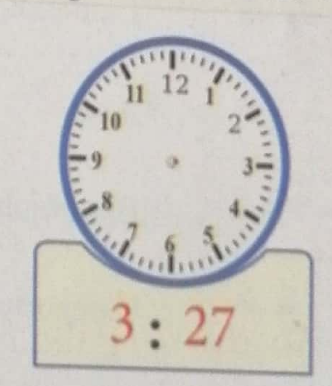
....

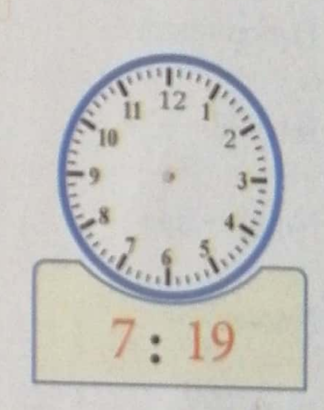
....



5 Draw hands according to the time :







6 Find the area of the coloured part :

Answer

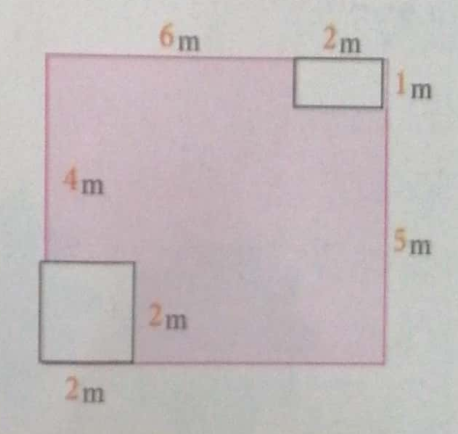
Area of uncoloured part

(...... × ......) + (...... × ......)

= .... + ... = ... m^2

Area of all shape = ... × ...... = ... m^2

Area of coloured part = ... - ...... = ... m^2





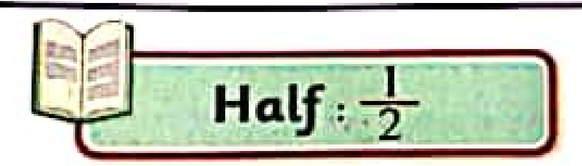
Student name : ....

Phone number: ....

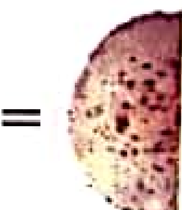
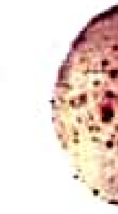
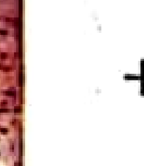
Vocabulary

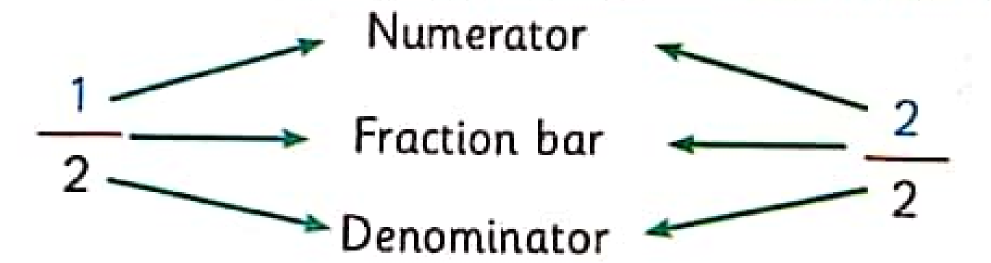
Fraction bar	شريط الكسر
Circle	دائرة
Include	يحتوي
Greater than	اكبر من
Less than	أقل من
Line plot	خط النقاط
Proper fraction	الكسر الحقيقى
Common	مشترك (متشابه)
Add	اجمع
Sum	مجموع
Difference	فرق
Subtract	اطرح
Compare	قارن
Eighths	أثمان
Equal parts	أجزاء متساوية
Fourths	أرباع
Addend	العناصر المجموعة
Bar model	نموذج الشريط
Perseverance	عزيمة
Review	مراجعة
Quotient	حاصل قسمة

Numerator	بسط
Equal	يساوي
Part	جزء
Fraction	كسر
Half	نصف
Fourth	ربع
Third	ثلث
Rectangle	مستطيل
Pie	فطيرة
Fractional parts	أجزاء كسرية
Halves	أنصاف
Number line	خط الأعداد
Sixths	أسداس
Thirds	أثلاث
Denominator	المقام
Unit fraction	وحدة الكسر
Factors	عوامل
Parentheses	أقواس
Product	ناتج الضرب
Equivalent	متكافئة
Associative	الدمج - التجميع
Property	خاصية

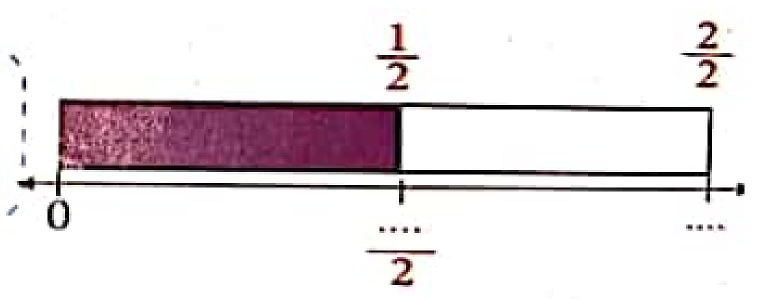


Half : $\frac{1}{2}$

Whole loaf		Whole loaf		1 half		1 half
	=	 	=		+	 
1		$\frac{2}{2}$		$\frac{1}{2}$		$\frac{1}{2}$

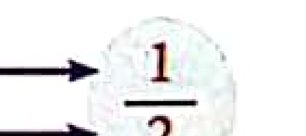


-aw a line under the $\frac{1}{2}$
-tion model then mark 0 and 1



-tice * Write the fraction :

- The fraction that represent the number of girls = $\frac{..1..}{2}$





- The fraction that represent the number of boys = $\frac{1...}{2}$
- The fraction that represent the number of children = $\frac{.2.}{2}$

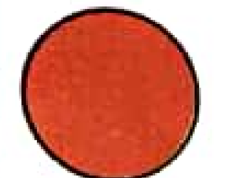
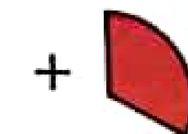
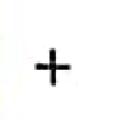




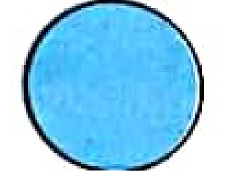
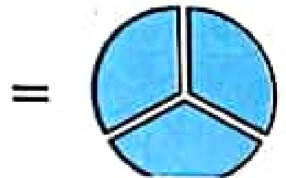
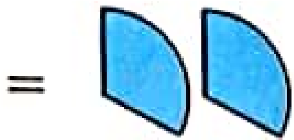
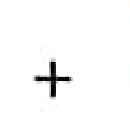
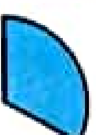


Third : $\frac{1}{3}$

Whole loaf		Whole loaf		third		third		third

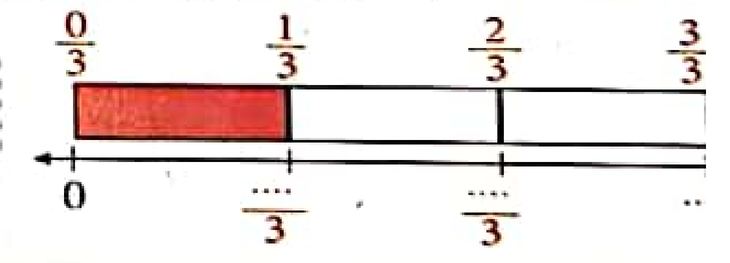
 =  = 

$1 = \frac{3}{3} = \frac{1}{3} + \frac{1}{3} + \frac{1}{3}$

 =  =   + 

$1 = \frac{3}{3} = \frac{2}{3} + \frac{1}{3}$

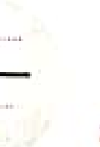
- Draw a line under the $\frac{1}{3}$ fraction model then mark .



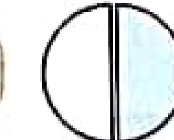
Practice * Write the fraction that represent the small bird :

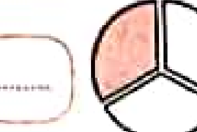
Numerator (Number of birds) ⟶ ....

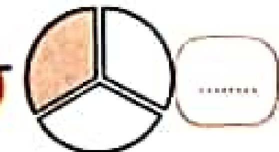
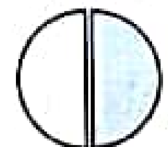
Denominator (all Number) ⟶ ....

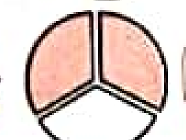



Practice * Complete by using (> , = , <) as the Ex :

  .... 

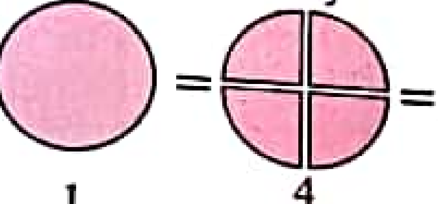
  .... 

   .... 

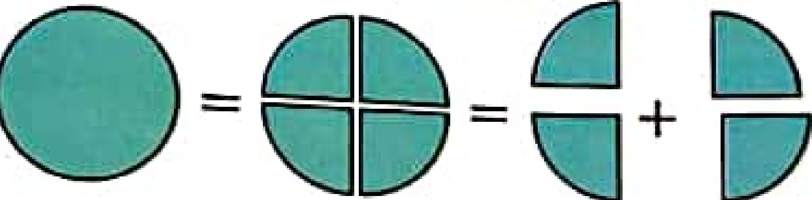




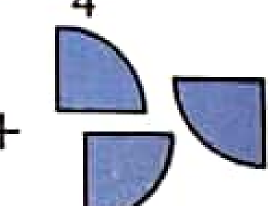
1 Fourth   Fourth   Fourth   Fourth



$1 = \frac{4}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$

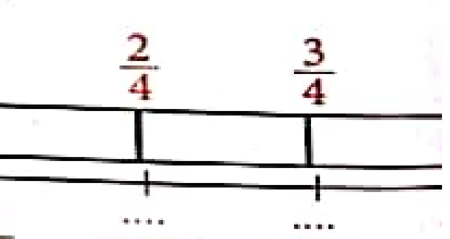


$1 = \frac{4}{4} = \frac{2}{4} + \frac{2}{4}$

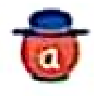


$1 = \frac{4}{4} = \frac{1}{4} + \frac{3}{4}$

- Draw a line under the $\frac{1}{4}$ fraction model then mark .



Practice * Write the fraction :

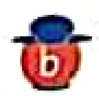


The fraction that represent the number of banana = $\frac{....}{4}$

Numerator (Number of banana) →
Denominator (all Number) →







The fraction that represent the number of orange = $\frac{....}{4}$



Fraction as a part of whole 1

Part	Shape	Part	Shape
1 (Whole)		$\frac{1}{....}$ (Sixth)	
$\frac{1}{2}$ (Half)		$\frac{1}{....}$ (Seventh)	
$\frac{1}{....}$ (Third)		$\frac{1}{....}$ (Eighth)	
$\frac{1}{4}$ (Fourth)		$\frac{1}{....}$ (Ninth)	
$\frac{1}{....}$ (Fifth)		$\frac{1}{....}$ (Tenth)	

Practice * Complete as in (a) :

a) $\frac{3}{4}$ → The numerator is 3 , The denominator is 4

b) $\frac{2}{5}$ → The numerator is ...... , The denominator is ......

c) $\frac{4}{9}$ → The numerator is ...... , The denominator is ......

d) $\frac{6}{12}$ → The numerator is ...... , The denominator is ......

e) $\frac{1}{2}$ → The numerator is ...... , The denominator is ......

Practice * Complete as in (a) :

a) The numerator is 1 , The denominator is 3 → $\frac{1}{3}$

b) The numerator is 2 , The denominator is 5 → $\frac{\dots}{\dots}$

c) The numerator is 5 , The denominator is 8 → $\frac{\dots}{\dots}$

d) The numerator is 6 , The denominator is 9 → $\frac{\dots}{\dots}$

e) The numerator is 3 , The denominator is 10 → $\frac{\dots}{\dots}$





The fraction = $\frac{\text{Number of required parts}}{\text{Number of all parts}}$

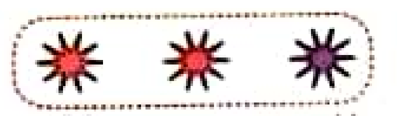
Practice * Complete :



a) The fraction that represent 
is $\frac{\text{Number of}}{\text{Number of}}$ = $\frac{2}{\dots}$

b) The fraction that represent 
is $\frac{\text{Number of}}{\text{Number of}}$ = $\frac{\dots}{4}$

Practice * Complete :

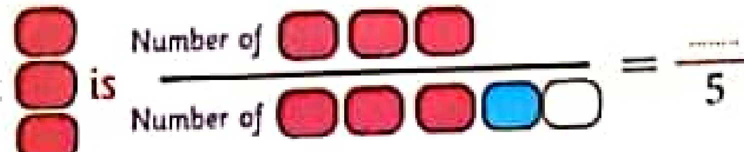


a) The fraction that represent is $\frac{\text{Number of}}{\text{Number of}}$ = $\frac{1}{3}$

b) The fraction that represent is $\frac{\text{Number of}}{\text{Number of}}$ = $\frac{\dots}{3}$

Practice * Complete :



a) The fraction that represent 
is $\frac{\text{Number of}}{\text{Number of}}$ = $\frac{\dots}{5}$

b) The fraction that represent 
is $\frac{\text{Number of}}{\text{Number of}}$ = $\frac{\dots}{\dots}$

Practice Kenzy bought one pizza, she divided it into 6 parts, she ate 4 parts of them, write the fraction.

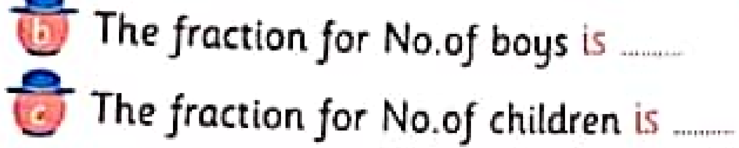
Solution The fraction is ....



Practice Complete :

Solution





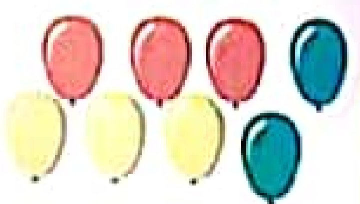
a) The fraction for No.of girls is ....

b) The fraction for No.of boys is ....

c) The fraction for No.of children is ....

Practice Amr has 8 balloons, 3 balloons of them are red, 2 balloons of them are green, complete :

Solution



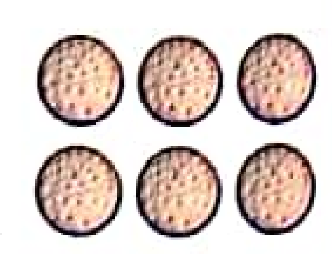


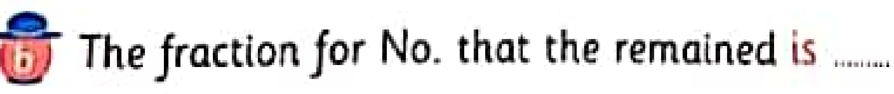
a) The fraction for No.of red balloons is ....

b) The fraction for No.of green balloons is ....

Practice Mariam had 6 pieces of biscuits, she ate 5 pieces, complete :

Solution





a) The fraction for No. that Mariam ate is ....

b) The fraction for No. that the remained is ....

Practice * Complete :



a. What is the fraction of the number of **red** pepper ? ....

b. What is the fraction of the number of **green** pepper ? ....

c. What is the fraction of the number of all pepper ? ....

Practice * Complete :



a. What is the fraction of the number of **red** Alarm clock ? .....

b. What is the fraction of the number of **blue** Alarm clock ? .....

c. What is the fraction of the number of all Alarms clock ? .....

Practice * Complete :

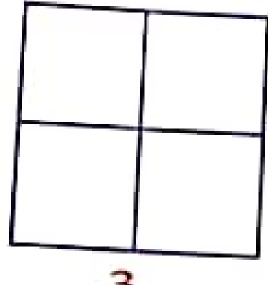


a. What is the fraction of the number of fish ? ....

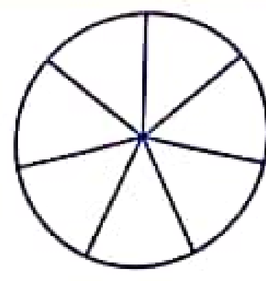
b. What is the fraction of the number of bears ? ....

c. What is the fraction of the number of all animals ? ....

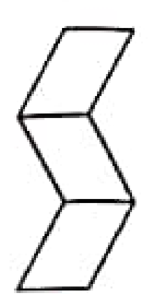
Practice (*) Colour that represent the fractions :



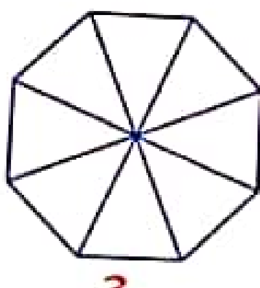
$\frac{3}{4}$



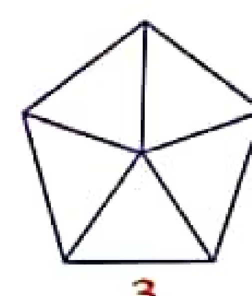
$\frac{5}{7}$



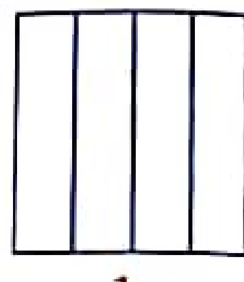
$\frac{1}{3}$



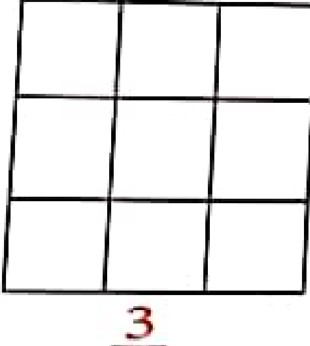
$\frac{3}{8}$



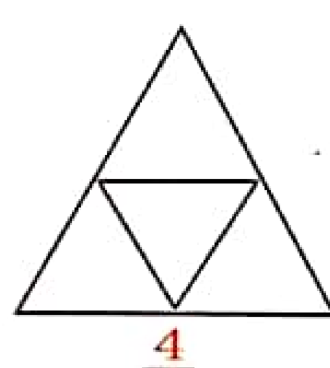
$\frac{3}{5}$



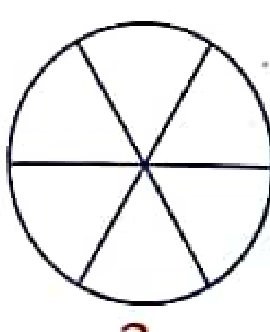
$\frac{1}{4}$



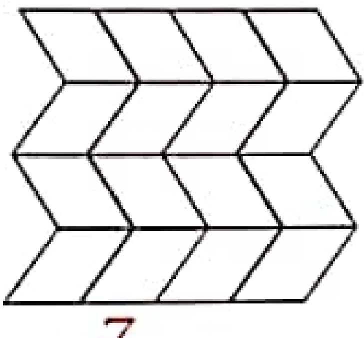
$\frac{3}{9}$



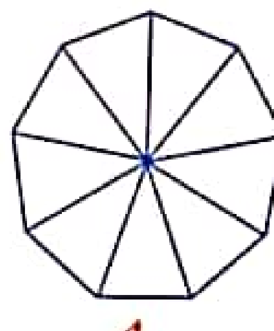
$\frac{4}{4}$



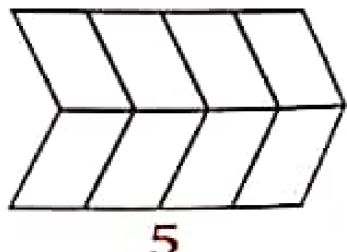
$\frac{2}{6}$



$\frac{7}{16}$

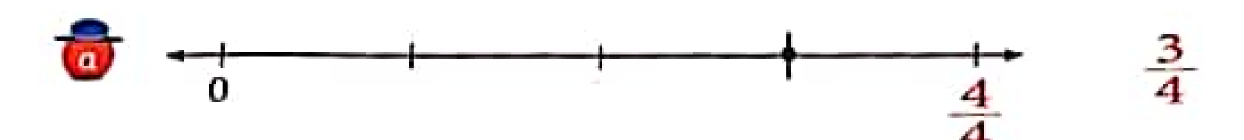


$\frac{4}{9}$



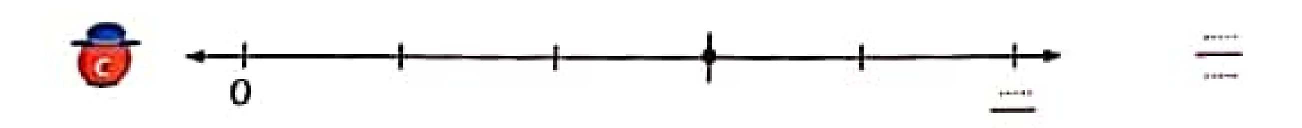
$\frac{5}{8}$

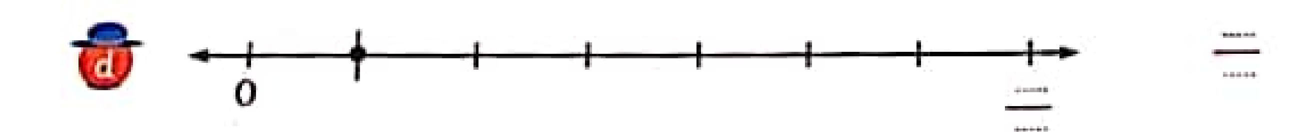
Practice (*) Write the fractions that represent the dot on the number line :

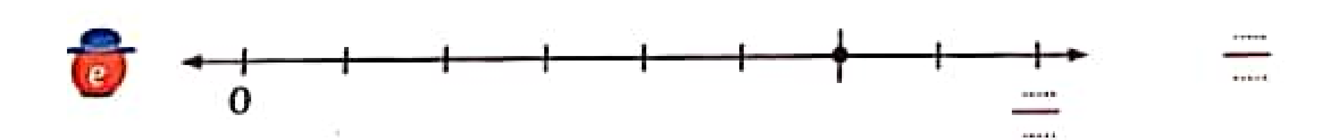


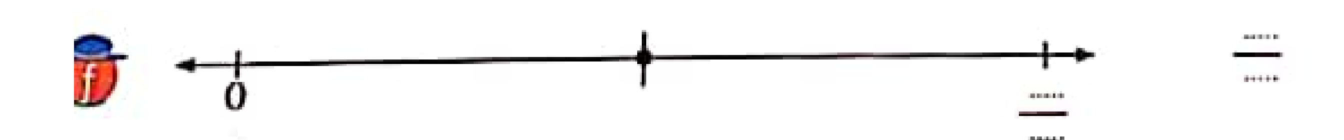
$\frac{3}{4}$

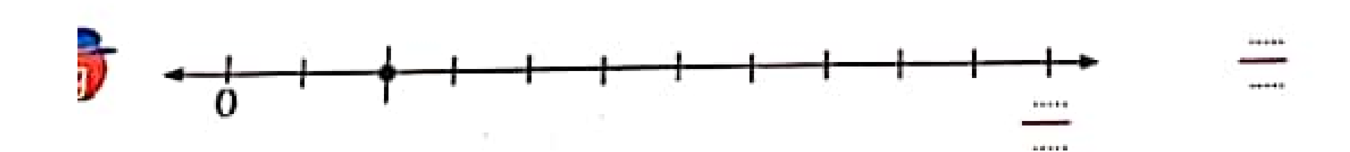


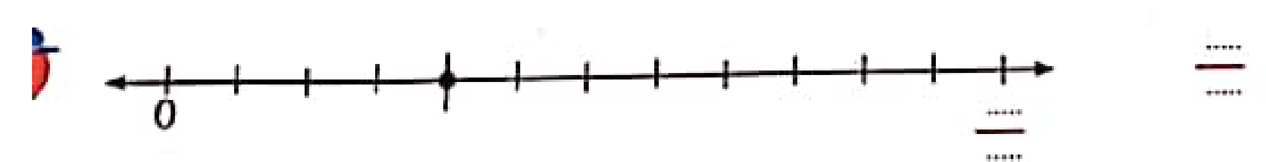












Practice * Write the fractions that represent the coloured part :

$\frac{.....}{.....}$ $\frac{.....}{.....}$ $\frac{.....}{.....}$

$\frac{.....}{.....}$ $\frac{.....}{.....}$ $\frac{.....}{.....}$

$\frac{.....}{.....}$ $\frac{.....}{.....}$ $\frac{.....}{.....}$

$\frac{.....}{.....}$ $\frac{.....}{.....}$ $\frac{.....}{.....}$



Practice * Write the fractions as in (a) :

a) Five eighths = $\frac{5}{8}$

b) Three sevenths = $\frac{\ldots}{\ldots}$

c) Fourth = $\frac{\ldots}{\ldots}$

d) Two fifths = $\frac{\ldots}{\ldots}$

e) Two sixths = $\frac{\ldots}{\ldots}$

f) Three fourths = $\frac{\ldots}{\ldots}$

g) Five tenths = $\frac{\ldots}{\ldots}$

h) Nine ninths = $\frac{\ldots}{\ldots}$

i) Three sixths = $\frac{\ldots}{\ldots}$

j) Two halves = $\frac{\ldots}{\ldots}$

k) Five sevenths = $\frac{\ldots}{\ldots}$

l) Seven eighths = $\frac{\ldots}{\ldots}$

Practice * Write the fractions in words as in (a) :

a) $\frac{3}{7}$ = Three sevenths .

b) $\frac{1}{4}$ = ...

c) $\frac{5}{5}$ = ...

d) $\frac{4}{9}$ = ...

e) $\frac{1}{6}$ = ...

f) $\frac{7}{8}$ = ...

g) $\frac{5}{7}$ = ...

h) $\frac{2}{3}$ = ...

i) $\frac{1}{3}$ = ...

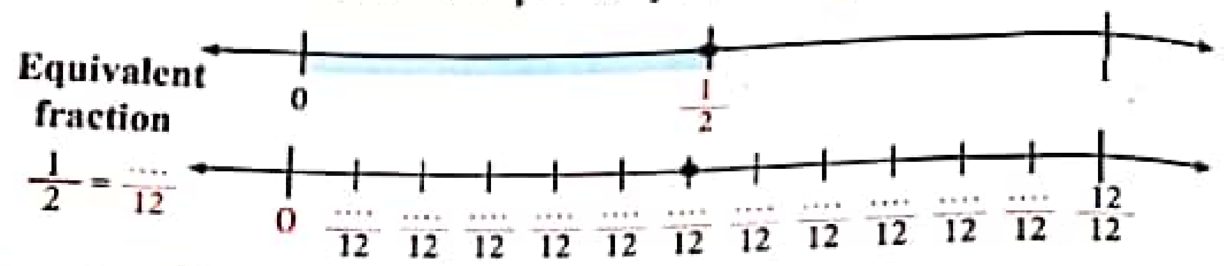
j) $\frac{7}{10}$ = ...

k) $\frac{4}{8}$ = ...

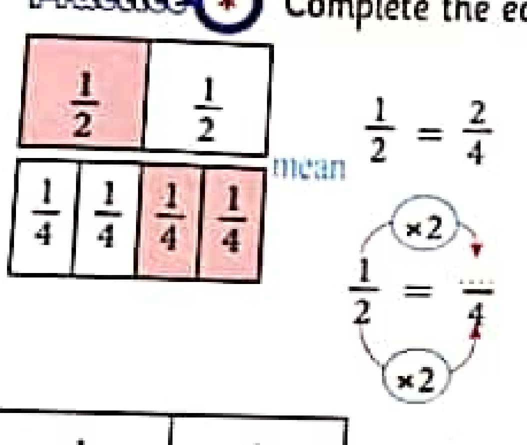
l) $\frac{1}{2}$ = ...

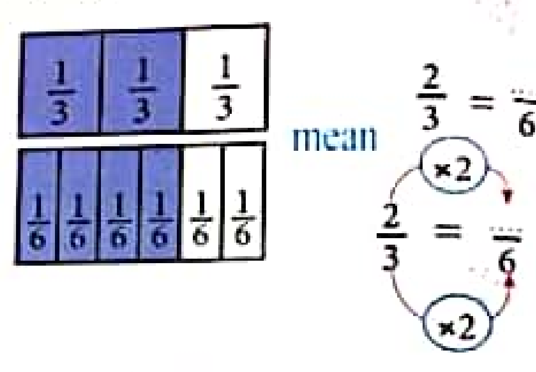


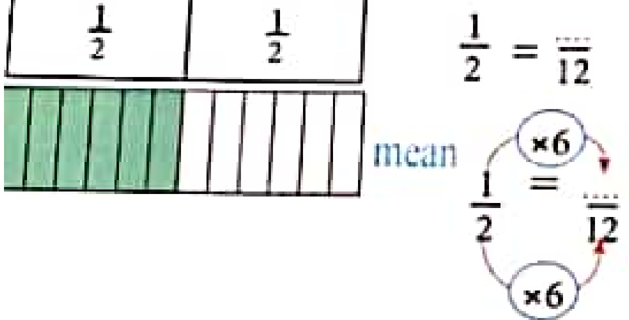
Practice * Divide the second number line into 12 equal parts, then write the equivalent fraction to $\frac{1}{2}$:

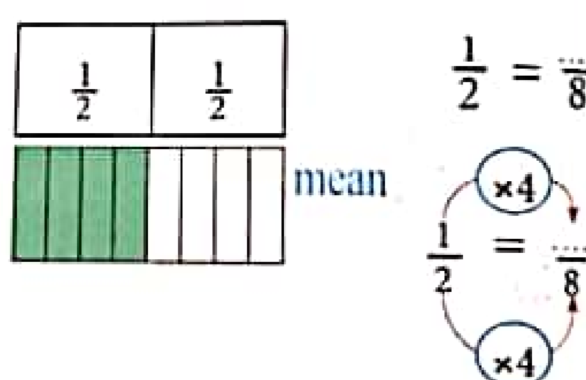


Practice * Complete the equivalent fraction :





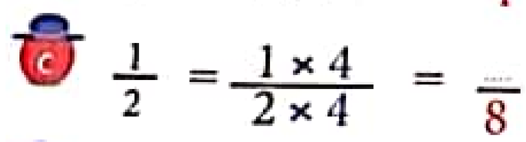




Practice * Complete as the example to get equivalent fraction :

(a) $\frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{....}{4}$

(b) $\frac{1}{2} = \frac{1 \times 3}{2 \times ....} = \frac{....}{6}$



(c) $\frac{1}{2} = \frac{1 \times 4}{2 \times 4} = \frac{....}{8}$

(d) $\frac{1}{3} = \frac{1 \times ....}{3 \times 2} = \frac{....}{6}$

(e) $\frac{1}{3} = \frac{1 \times 3}{3 \times ....} = \frac{3}{....}$

(f) $\frac{1}{4} = \frac{.... \times ....}{4 \times 2} = \frac{....}{8}$

Practice * Complete to get equivalent fraction as in (a) :

a) $\frac{2}{14} \overset{\div 2}{=} \frac{2}{6}$ (÷2)

b) $\frac{5}{25} = \frac{\cdots}{\cdots}$ (÷5)

c) $\frac{7}{35} = \frac{\cdots}{\cdots}$ (÷7)

d) $\frac{6}{18} = \frac{\cdots}{\cdots}$ (÷3)

e) $\frac{4}{8} = \frac{\cdots}{\cdots}$ (÷2)

f) $\frac{3}{6} = \frac{\cdots}{\cdots}$ (÷3)

g) $\frac{8}{16} = \frac{\cdots}{\cdots}$ (÷4)

h) $\frac{9}{18} = \frac{\cdots}{\cdots}$ (÷9)

i) $\frac{6}{24} = \frac{\cdots}{\cdots}$ (÷6)

Practice * Complete to get equivalent fraction as in (a) :

a) $\frac{4}{6} = \frac{2}{3}$

b) $\frac{5}{10} = \frac{\cdots}{\cdots}$

c) $\frac{7}{14} = \frac{\cdots}{\cdots}$

d) $\frac{3}{9} = \frac{\cdots}{\cdots}$

e) $\frac{6}{16} = \frac{\cdots}{\cdots}$

f) $\frac{5}{15} = \frac{\cdots}{\cdots}$

g) $\frac{2}{8} = \frac{\cdots}{\cdots}$

h) $\frac{3}{12} = \frac{\cdots}{\cdots}$

i) $\frac{5}{20} = \frac{\cdots}{\cdots}$

j) $\frac{2}{10} = \frac{\cdots}{\cdots}$

k) $\frac{3}{15} = \frac{\cdots}{\cdots}$

l) $\frac{4}{20} = \frac{\cdots}{\cdots}$

m) $\frac{10}{30} = \frac{\cdots}{\cdots}$

n) $\frac{6}{16} = \frac{\cdots}{\cdots}$

o) $\frac{8}{16} = \frac{\cdots}{\cdots}$

Practice ✱ Place the following fraction on the number line :

 $\frac{1}{4}$, $\frac{3}{4}$



 $\frac{1}{6}$, $\frac{1}{2}$

0 ——————————————— 1



$\frac{1}{9}$, $\frac{1}{3}$

 $\frac{1}{2}$, $\frac{1}{5}$



Practice ✱ Arrange the following fraction :

 $\frac{1}{5}$, $\frac{3}{5}$, $\frac{5}{5}$, $\frac{2}{5}$

In a descending order : ....

 $\frac{5}{7}$, $\frac{1}{7}$, $\frac{2}{7}$, $\frac{7}{7}$, $\frac{6}{7}$

In an ascending order : ....

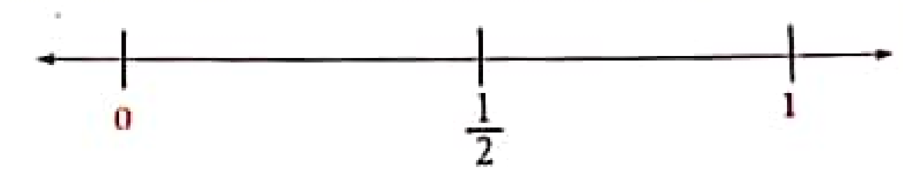
 $\frac{2}{10}$, $\frac{5}{10}$, $\frac{9}{10}$, $\frac{8}{10}$, $\frac{3}{10}$

In a descending order : ....

Practice ✱ Place the following fraction on the number line :

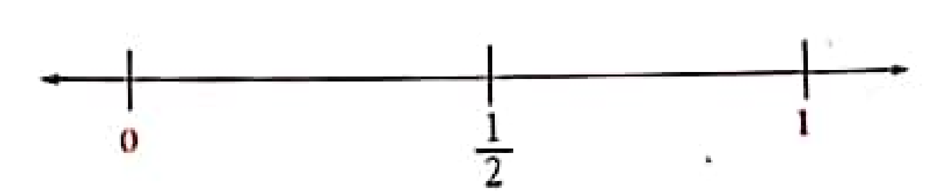


$\frac{3}{8}$

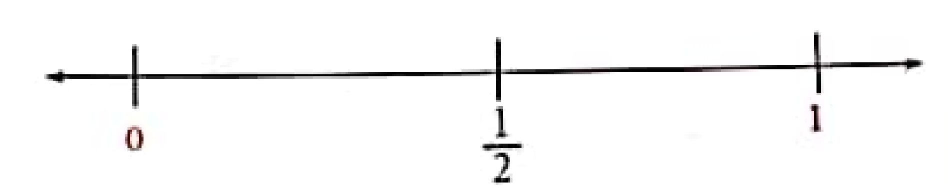




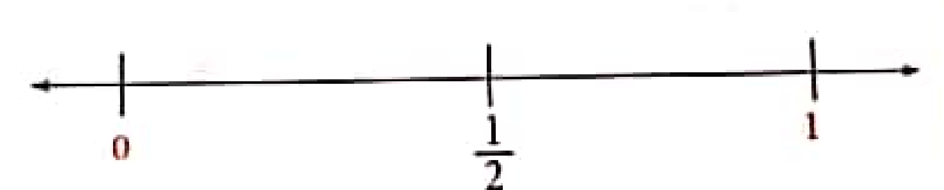
$\frac{4}{6}$



c) $\frac{3}{10}$



d) $\frac{2}{3}$



Practice ✱ Arrange the following fraction :



$\frac{1}{3}$, $\frac{1}{12}$, $\frac{1}{7}$, $\frac{1}{9}$

In an ascending order : ……………………………………………



$\frac{2}{3}$, $\frac{2}{2}$, $\frac{2}{8}$, $\frac{2}{6}$, $\frac{2}{4}$

In a descending order : ……………………………………………



$\frac{3}{9}$, $\frac{3}{5}$, $\frac{3}{7}$, $\frac{3}{10}$, $\frac{3}{3}$

In a descending order : ……………………………………………

Practice Complete by using (> . = . <) as the Ex :

Ex.

a) <

b) ....

c) ....

d) ....

e) ....

f) ....

g) ....

h) ....

Practice Colour that represent the fractions , then arrange them :



The greatest part is $\frac{1}{2}$

The smallest part is $\frac{1}{8}$

Notice

The larger denominator, mean the smaller fraction in value

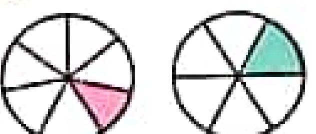
$\frac{....}{2} > \frac{....}{....} > \frac{....}{....} > \frac{....}{....} > \frac{1}{8}$



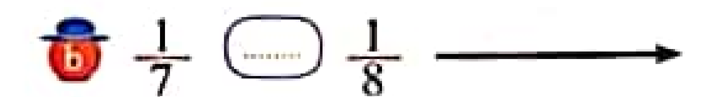
Practice * Look note then put (> , = , <) :

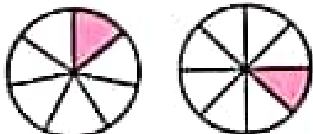
a) $\frac{1}{7}$ (........) $\frac{1}{6}$ →



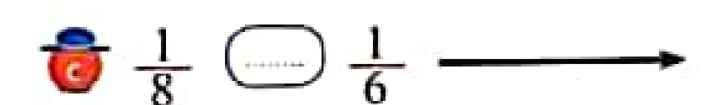


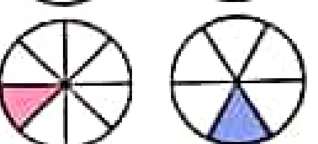
b) $\frac{1}{7}$ (........) $\frac{1}{8}$ →



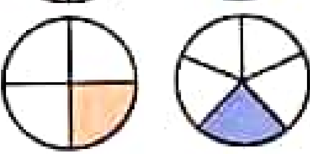


c) $\frac{1}{8}$ (........) $\frac{1}{6}$ →

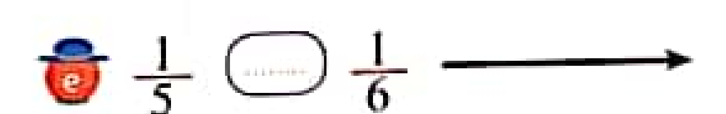


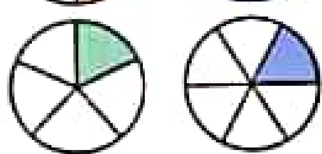


d) $\frac{1}{4}$ (........) $\frac{1}{5}$ →



e) $\frac{1}{5}$ (........) $\frac{1}{6}$ →

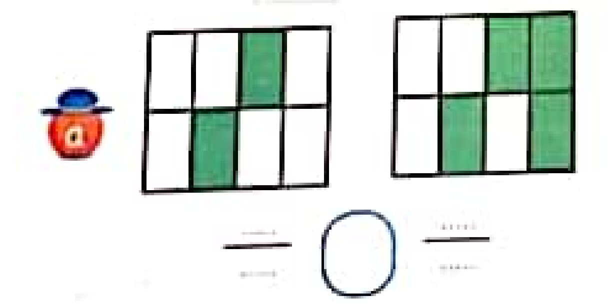




Practice * Write the fraction then put (> , < , =) :

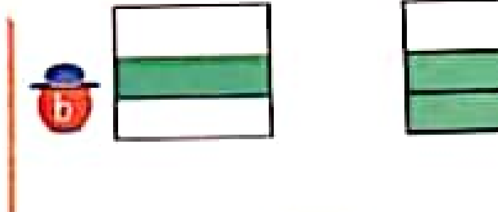
Remarks : When the denominators are equal the fraction with the smallest numerator is the smallest.

a)



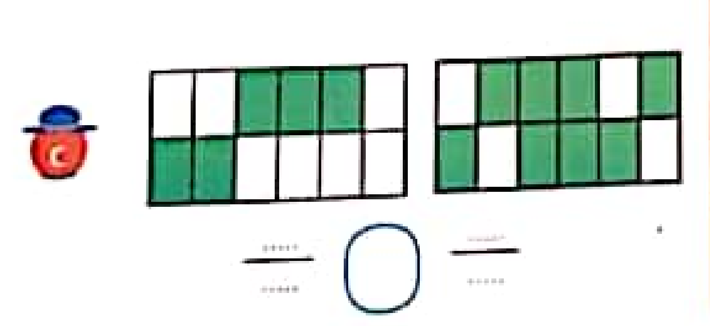
$\frac{.....}{.....}$ ( ) $\frac{.....}{.....}$

b)



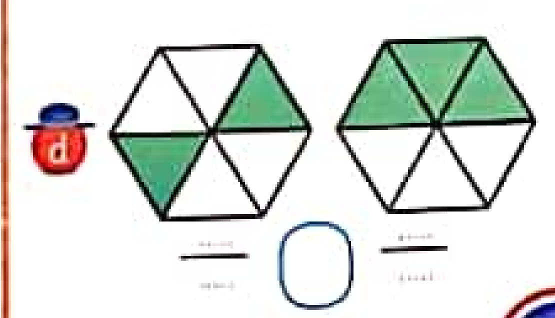
$\frac{.....}{.....}$ ( ) $\frac{.....}{.....}$

c)



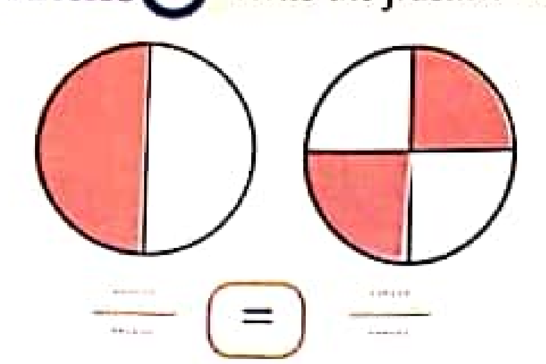
$\frac{.....}{.....}$ ( ) $\frac{.....}{.....}$

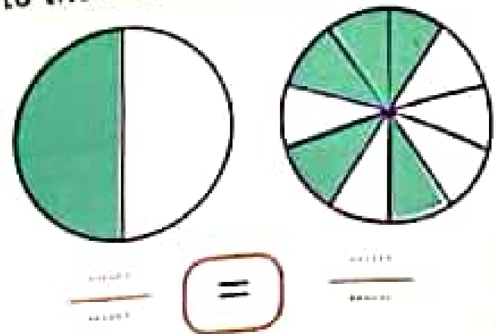
d)

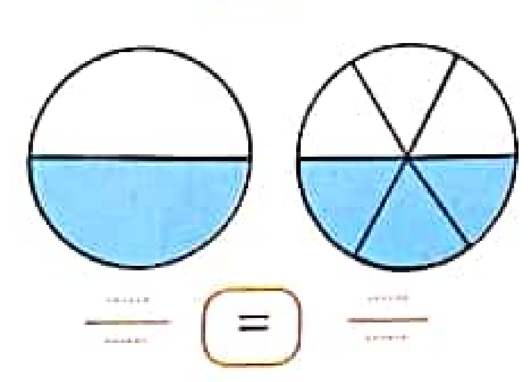


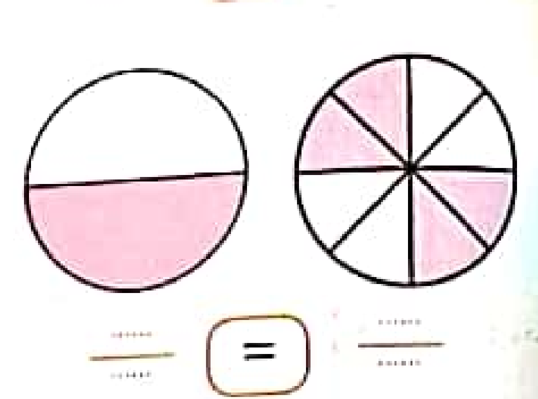
$\frac{.....}{.....}$ ( ) $\frac{.....}{.....}$

Practice Write the fraction according to the coloured parts :

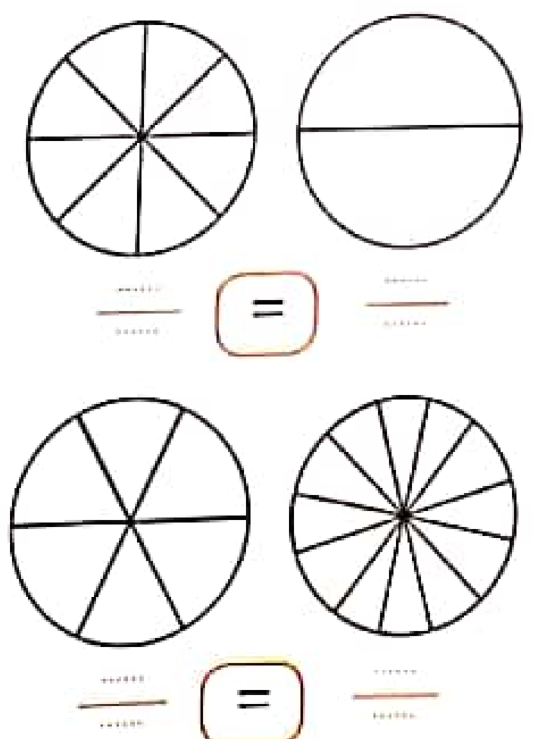


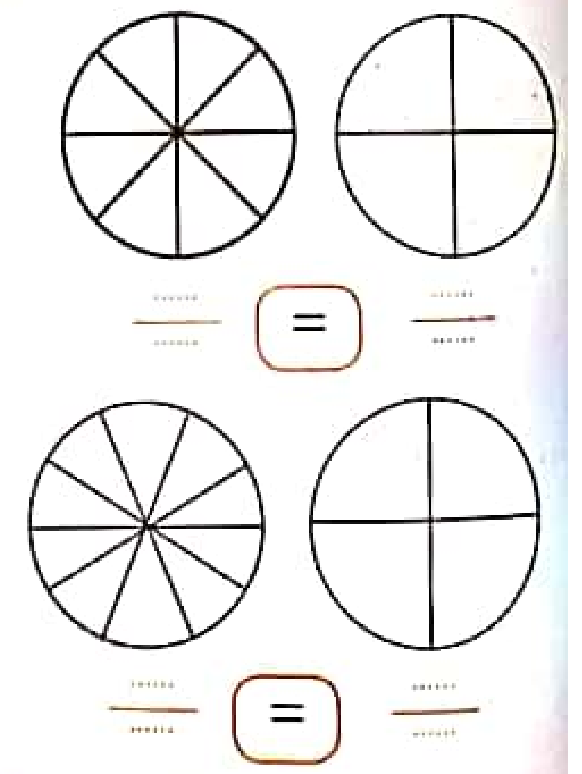




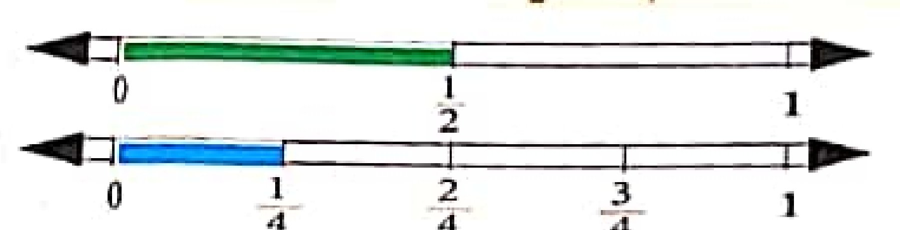


Practice Colour $\frac{1}{2}$ each model ,
then write the fraction under each one :





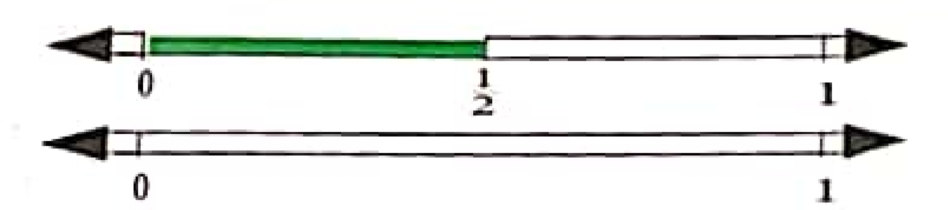
Practice Compare between $\frac{1}{2}$ and $\frac{1}{4}$ on the number line :



$1 = \frac{2}{2} = \frac{4}{4}$

$\frac{1}{2}$ ...... $\frac{1}{4}$

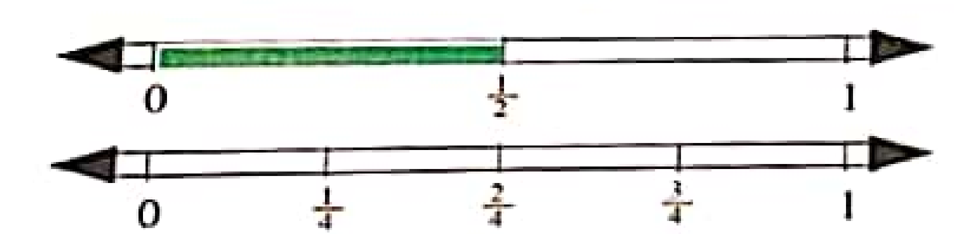
Practice Compare between $\frac{1}{2}$ and $\frac{1}{3}$ on the number line:



$1 = \frac{2}{2} = \frac{3}{3}$

$\frac{1}{2}$ ...... $\frac{1}{3}$

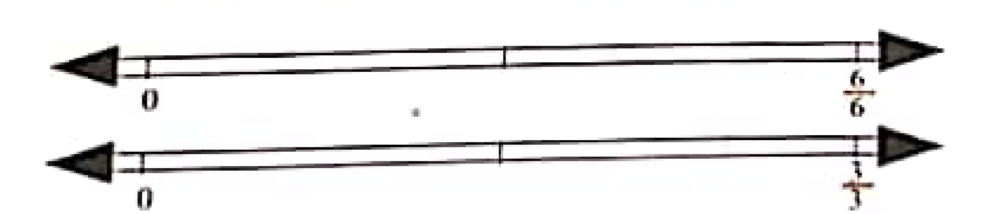
Practice Compare between $\frac{1}{2}$ and $\frac{3}{4}$ on the number line:



$1 = \frac{2}{......} = \frac{4}{......}$

$\frac{1}{2}$ ...... $\frac{3}{4}$

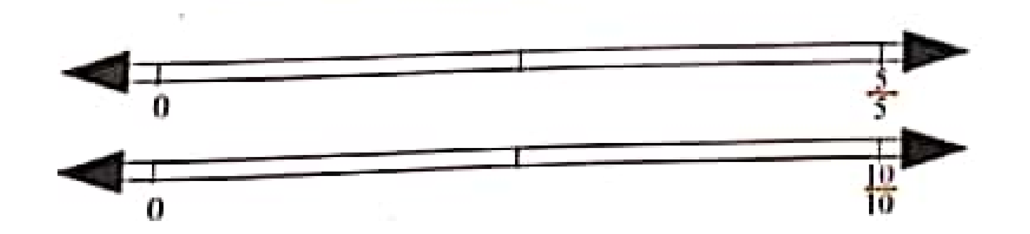
Practice Compare between $\frac{1}{6}$ and $\frac{1}{3}$ on the number line:



$1 = \frac{......}{......} = \frac{......}{......}$

$\frac{......}{......} > \frac{......}{......}$

Practice Compare between $\frac{1}{5}$ and $\frac{1}{10}$ on the number line:



$1 = \frac{......}{......} = \frac{......}{......}$



$\frac{......}{......} > \frac{......}{......}$

Practice * Compare between the two fractions $\frac{3}{5}$, $\frac{2}{5}$ using shapes:

$\frac{\dots}{5}$ $\frac{\dots}{5}$ So $\frac{\dots}{\dots} > \frac{\dots}{\dots}$

Practice * Compare between the two fractions $\frac{4}{8}$, $\frac{6}{8}$ using shapes:

$\frac{\dots}{8}$ $\frac{\dots}{8}$ So $\frac{\dots}{\dots} > \frac{\dots}{\dots}$

Practice * Compare between the two fractions $\frac{2}{5}$, $\frac{2}{7}$ using shapes:

$\frac{\dots}{5}$ $\frac{\dots}{7}$ So $\frac{\dots}{\dots} > \frac{\dots}{\dots}$

Practice * Compare between the two fractions $\frac{2}{3}$, $\frac{1}{3}$ using shapes:

$\frac{\dots}{3}$ $\frac{\dots}{3}$ So $\frac{\dots}{\dots} > \frac{\dots}{\dots}$

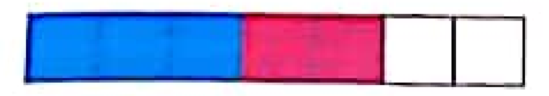
Practice * Compare between the two fractions $\frac{5}{5}$, $\frac{2}{6}$ using shapes:

$\frac{\dots}{5}$ $\frac{\dots}{6}$ So $\frac{\dots}{\dots} > \frac{\dots}{\dots}$

Adding two like fractions

Practice ✱ Add using the model as in (a) :

a) $\frac{3}{7} + \frac{2}{7} = \frac{\cdots}{7}$



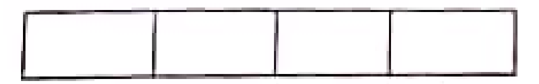
Notice all denominators are like

** Add numerators only

Then : $\frac{3}{7} + \frac{2}{7} = \frac{5}{7}$

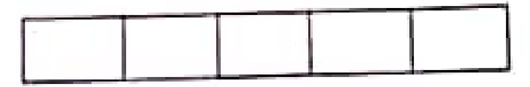
b) $\frac{2}{4} + \frac{1}{4} = \frac{\cdots}{4}$

** Add numerators only



c) $\frac{2}{5} + \frac{3}{5} = \frac{\cdots}{5}$

** Add numerators only



d) $\frac{1}{8} + \frac{4}{8} = \frac{\cdots}{8}$

** Add numerators only



e) $\frac{5}{11} + \frac{3}{11} = \frac{\cdots}{11}$

** Add numerators only

f) $\frac{1}{6} + \frac{2}{6} = \frac{\cdots}{6}$

* Add numerators only

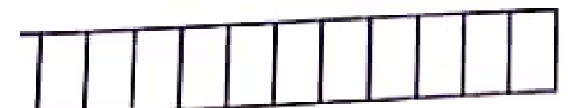


g) $\frac{1}{3} + \frac{2}{3} = \frac{\cdots}{3}$

** Add numerators only

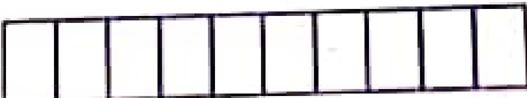
h) $\frac{5}{12} + \frac{6}{12} = \frac{\cdots}{12}$

Add numerators only



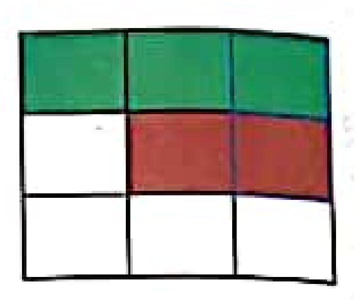
i) $\frac{3}{10} + \frac{3}{10} = \frac{\cdots}{10}$

** Add numerators only



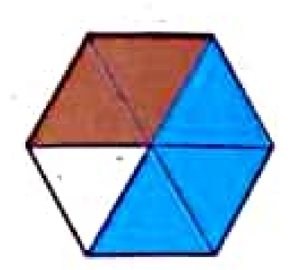
Practice * Complete as the Ex :

- The green part represents = $\frac{3}{9}$
- The red part represents = $\frac{\cdots}{9}$
- The coloured parts = $\frac{\cdots}{9} + \frac{\cdots}{9} = \frac{\cdots}{9}$



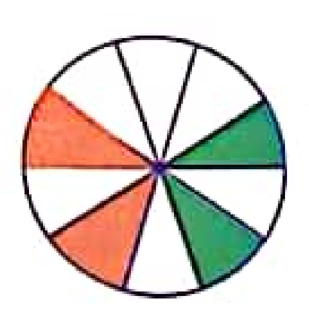
Practice * Complete as the Ex :

- The red part represents = $\frac{\cdots}{\cdots}$
- The blue part represents = $\frac{\cdots}{\cdots}$
- The coloured parts = $\frac{\cdots}{\cdots} + \frac{\cdots}{\cdots} = \frac{\cdots}{\cdots}$



Practice * Complete as the Ex :

- The green part represents = $\frac{\cdots}{\cdots}$
- The orange part represents = $\frac{\cdots}{\cdots}$
- The coloured parts = $\frac{\cdots}{\cdots} + \frac{\cdots}{\cdots} = \frac{\cdots}{\cdots}$



Practice * Add the following :

a) $\frac{5}{11} + \frac{1}{11} = \frac{\cdots}{\cdots}$

b) $\frac{3}{8} + \frac{4}{8} = \frac{\cdots}{\cdots}$

c) $\frac{2}{5} + \frac{3}{5} = \frac{\cdots}{\cdots}$

d) $\frac{1}{7} + \frac{6}{7} = \frac{\cdots}{\cdots}$

e) $\frac{1}{9} + \frac{3}{9} = \frac{\cdots}{\cdots}$

f) $\frac{1}{10} + \frac{1}{10} = \frac{\cdots}{\cdots}$

g) $\frac{5}{6} + \frac{1}{6} = \frac{\cdots}{\cdots}$

h) $\frac{1}{4} + \frac{2}{4} = \frac{\cdots}{\cdots}$



Subtracting like fraction

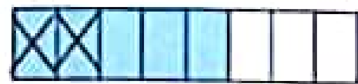
Practice (*) Subtract using the model as in (a) :



(a) $\frac{5}{8} - \frac{2}{8} = \frac{\dots}{8}$

Notice all denominators are like

** Subtract the numerators only



** Subtract the numerators only

So $\frac{5}{8} - \frac{2}{8} = \frac{3}{8}$



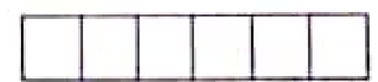
(b) $\frac{3}{3} - \frac{1}{3} = \frac{\dots}{3}$

** Subtract the numerators only



(c) $\frac{4}{6} - \frac{3}{6} = \frac{\dots}{6}$

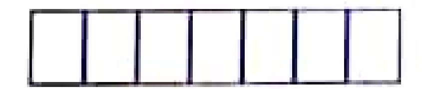
** Subtract the numerators only





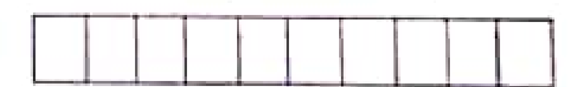
(d) $\frac{5}{7} - \frac{2}{7} = \frac{\dots}{7}$

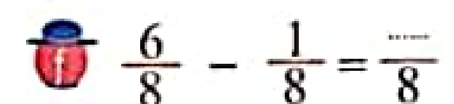
** Subtract the numerators only



(e) $\frac{9}{10} - \frac{4}{10} = \frac{\dots}{10}$

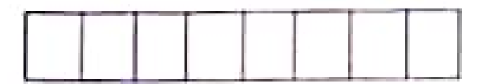
** Subtract the numerators only





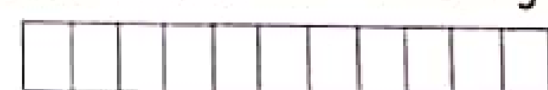
(f) $\frac{6}{8} - \frac{1}{8} = \frac{\dots}{8}$

** Subtract the numerators only



(g) $\frac{8}{11} - \frac{6}{11} = \frac{\dots}{11}$

** Subtract the numerators only



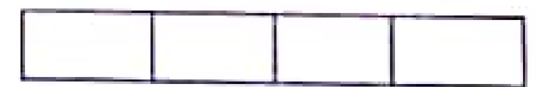
(h) $\frac{7}{12} - \frac{3}{12} = \frac{\dots}{12}$

** Subtract the numerators only



(i) $\frac{3}{4} - \frac{1}{4} = \frac{\dots}{4}$

** Subtract the numerators only



Practice * Subtract as the Ex :

Ex: $1 - \frac{3}{4} = \frac{4}{4} - \frac{3}{4} = \frac{1}{4}$

a) $1 - \frac{3}{5} = \ldots\ldots - \frac{3}{5} = \ldots\ldots$

b) $1 - \frac{5}{6} = \ldots\ldots - \frac{5}{6} = \ldots\ldots$

c) $1 - \frac{1}{8} = \ldots\ldots - \frac{1}{8} = \ldots\ldots$

d) $1 - \frac{4}{7} = \ldots\ldots - \frac{4}{7} = \ldots\ldots$

e) $1 - \frac{2}{3} = \ldots\ldots - \frac{2}{3} = \ldots\ldots$

f) $1 - \frac{7}{9} = \ldots\ldots - \frac{7}{9} = \ldots\ldots$

Practice * Subtract :

a) $\frac{4}{6} - \frac{1}{6} = \frac{\ldots}{\ldots}$

b) $\frac{7}{8} - \frac{3}{8} = \frac{\ldots}{\ldots}$

c) $\frac{7}{9} - \frac{5}{9} = \frac{\ldots}{\ldots}$

d) $\frac{9}{10} - \frac{3}{10} = \frac{\ldots}{\ldots}$

e) $\frac{6}{11} - \frac{2}{11} = \frac{\ldots}{\ldots}$

f) $\frac{3}{4} - \frac{2}{4} = \frac{\ldots}{\ldots}$

g) $\frac{2}{4} - \frac{1}{4} = \frac{\ldots}{\ldots}$

h) $\frac{4}{5} - \frac{1}{5} = \frac{\ldots}{\ldots}$

Practice * Complete the following :

a) $\frac{1}{2} + \frac{1}{4} = \ldots\ldots + \frac{1}{4} = \ldots\ldots$

b) $\frac{1}{3} - \frac{4}{15} = \ldots\ldots - \frac{4}{15} = \ldots\ldots$

c) $\frac{1}{2} + \frac{1}{6} = \ldots\ldots + \frac{1}{6} = \ldots\ldots$

d) $\frac{1}{3} + \frac{1}{9} = \ldots\ldots + \frac{1}{9} = \ldots\ldots$

e) $\frac{1}{2} - \frac{3}{8} = \ldots\ldots - \frac{3}{8} = \ldots\ldots$

f) $\frac{3}{4} - \frac{5}{12} = \ldots\ldots - \frac{5}{12} = \ldots\ldots$

g) $\frac{1}{2} + \frac{2}{14} = \ldots\ldots + \frac{2}{14} = \ldots\ldots$

h) $\frac{3}{5} + \frac{3}{10} = \ldots\ldots + \frac{3}{10} = \ldots\ldots$

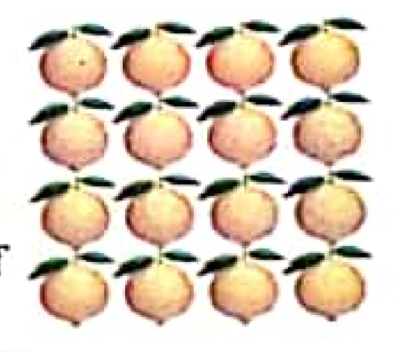


Practice ✱ Dalia has 16 Lemons to distribute them equally to her friends , Complete :



① If he splits the Lemons equally between 2 friends :

Solution Divide the Lemons on the friends



$16 \div 2 =$ ...... Lemons

So Number of Lemons for each one = 8

The fraction that expresses the share of each one = $\frac{.....}{.....}$

② If he distribute the Lemons equally between 4 friends :

Solution Divide the Lemons on the friends



...... ÷ ...... = ... Lemons

So Number of Lemons for each one = ...

The fraction that expresses the share of each one = $\frac{.....}{.....}$

③ If he distribute the Lemons equally between 8 friends :

Solution Divide the Lemons on the friends



...... ÷ ...... = ... Lemons

So Number of Lemons for each one = ...

The fraction that expresses the share of each one = $\frac{.....}{.....}$

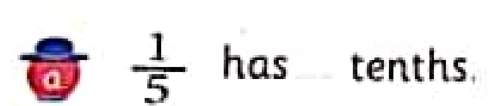




Remember that

We divide the number of all parts by the denominator.

Practice ✱ Complete :



a) $\frac{1}{5}$ has ..... tenths.

$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$	
$\frac{1}{10}$	$\frac{1}{10}$								

b) $\frac{1}{2}$ has ..... eighths

$\frac{1}{2}$				$\frac{1}{2}$			
$\frac{1}{8}$	$\frac{1}{8}$						

c) $\frac{2}{3}$ has ..... sixths

$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$	
$\frac{1}{6}$					

Practice ✱ Complete as in (a) :

a) If $\frac{1}{2}$ a bag of balloons equal 6 balloons

Then number of all balloons = 2 × 6 = 12 balloons.

b) If $\frac{1}{4}$ a bag of biscuit equal 5 pieces

Then number of all biscuit = 5 × .... = ... pieces

c) If $\frac{1}{3}$ a box of mineral water equal 4 bottles

Then number of bottles in a box = 4 × .... = ... bottles

d) If $\frac{1}{5}$ of pens in the box equal 2 pen

Then number of pens in the box = 2 × .... = ... pens

e) If $\frac{1}{7}$ of kilogram of oranges = 1 oranges

Then A kilogram of oranges = 1 × .... = ... oranges





What is half of 16 ? :



Divide 16 elements on .... sets

Number of elements in each set = ...

Then half of 16 equal ......

Second way

Half of 16 equal 16 ÷ 2 = ...



Using divide find the following as in (a) :



a What is $\frac{1}{2}$ of 12 ? Solution : 12 ÷ ..2.. = ..6..

b What is $\frac{1}{4}$ of 16? Solution : 16 ÷ ...... = ...

c What is $\frac{1}{2}$ of 8? Solution : 8 ÷ ...... = ...

d What is $\frac{1}{3}$ of 9? Solution : 9 ÷ ...... = ...

e What is $\frac{1}{5}$ of 15? Solution : 15 ÷ ...... = ...

f What is $\frac{1}{7}$ of 21? Solution : 21 ÷ ...... = ...



Practice Which is greater :
half family (a) or half family (b) :

A

B

Solution

Family ...... B has ..6.. members > Family ...... has ...... members

Half family ...... B has ...... members > Half family ...... has ...... members

Practice Complete :

a Weight of watermelon ☐ Weight of mango

b Half the weight of watermelon ☐ half the weight of mango

Practice Complete using (> , = , <) :



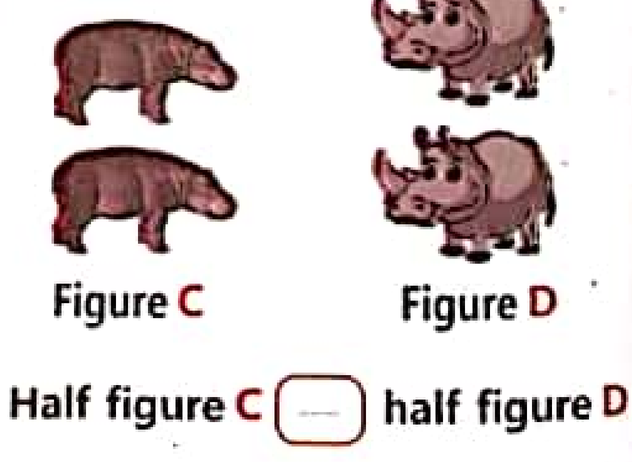


Figure A

Figure B

Figure C

Figure D

Half figure A ☐ half figure B

Half figure C ☐ half figure D



Practice ✱ Which is greater ? :

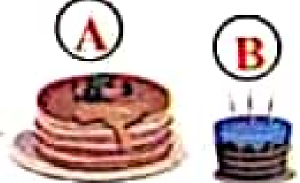


The pie .... > The pie ....

So : half .... > half ....

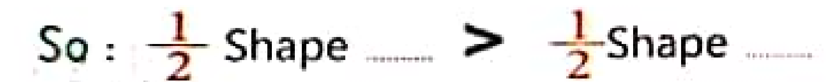
So : $\frac{1}{2}$ .... > $\frac{1}{2}$ ....

Practice ✱ Which is greater half (a) or half (b) :



* Shape .... > Shape ....

So : half the shape .... > Half the shape ....



So : $\frac{1}{2}$ Shape .... > $\frac{1}{2}$ Shape ....

Practice ✱ Which has less:
half figure (a) or half figure (b) ?:



* Shape .... < Shape ....

So : Half the shape .... < Half the shape ....

So : $\frac{1}{2}$ Shape .... < $\frac{1}{2}$ Shape ....

Practice ✱ Complete using (> , = , <) :

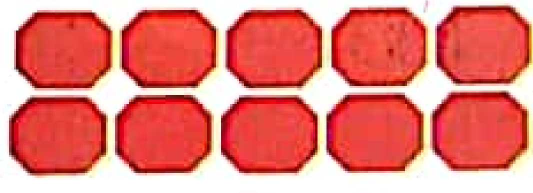


Figure 1

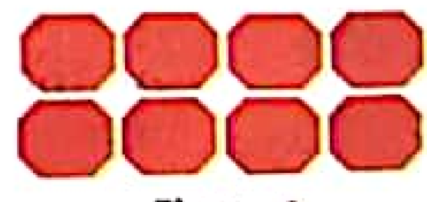
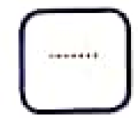


Figure 2

Half the number of figure 1  .... Half the number of figure 2

